



**Association of Indian Universities
New Delhi**

&



**Somaiya Vidyavihar University
Mumbai**

Welcome

The Delegates

of

AIU West Zone

Vice Chancellors' Meet-2023-24

(December 19-20, 2023)

UNIVERSITY NEWS

A Weekly Journal of Higher Education

Vol. 61 No. 51 December 18-24, 2023

Special Issue

on

FUTURE OF WORK AND SKILL DEVELOPMENT

on the occasion of

AIU WEST ZONE VICE CHANCELLORS' MEET—2023-24

hosted by

SOMAIYA VIDYAVIHAR UNIVERSITY MUMBAI

(DECEMBER 19-20, 2023)

Patron : Prof. G D Sharma

Editorial Committee Chairperson : Dr (Ms) Pankaj Mittal

Editorial Committee : Dr Baljit Singh Sekhon

: Dr Amarendra Pani

: Dr Youd Vir Singh

Editor : Dr Sistla Rama Devi Pani

Table of Contents

| | |
|--|----|
| Editorial | 7 |
| – <i>Sistla Rama Devi Pani</i> | |
| Setting the Tone for AIU West Zone Vice Chancellors’ Meet on Future of Work and Skill Development | |
| – <i>Pankaj Mittal and Sistla Rama Devi Pani</i> | 9 |
| Somaiya Vidyavihar University, Mumbai: A Profile | 12 |
| 1. Skilling India: Setting the Stage for a Comprehensive Renaissance | |
| – <i>Nalin K Shastree</i> | 17 |
| 2. Examination-centric Coaching Can Be Very Depressing | |
| – <i>R V Raja Kumar</i> | 23 |
| 3. Sustainable Careers: Navigating a Dynamic Workplace | |
| – <i>Harpreet Kaur</i> | 27 |
| 4. Uncovering Educational Misalignments: A Closer Look at India's Flawed Learning Landscape | |
| – <i>Neeraj Saxena</i> | 33 |
| 5. Future of Work and Skill Development: Initiatives and Implications for Higher Education in India | |
| – <i>Sunil Kumar Singh and Shravan Kumar Kushwaha</i> | 36 |
| 6. Aspirational Education System of India for Ushering Us to New India of 2047 | |
| – <i>Om Vikas</i> | 43 |
| 7. From Classroom to Career: The Role of National Education Policy—2020 in Fostering Sustainable Development through Apprenticeships | |
| – <i>Sangeeta Jauhari, Abhishek Pandit and Kavita Indapurkar</i> | 58 |
| 8. Leadership and Communication Skills | |
| – <i>G Gopalakrishnan</i> | 63 |
| 9. Human-centered Skills in a Tech-driven World: Soft Skills and Emotional Intelligence | |
| – <i>Hema Raghavan</i> | 65 |
| 10. Man, Mind, and the Matter of Professional Meaning | |
| – <i>Anando Dutta</i> | 68 |
| 11. Empowering Minds: Focusing the Curriculum on Nurturing Soft Skills in a Technology-driven Era | |
| – <i>J John Sekar</i> | 70 |
| 12. Crafting Sustainable Careers in a Dynamic Professional Terrain | |
| – <i>Subhajit Panda and Navkiran Kaur</i> | 77 |
| UNIVERSITY NEWS 61(51) DECEMBER 18-24, 2023 | 5 |

| | |
|---|-----|
| 13. Economics Education: A Tool for Enhancing Employability, Decision-making, and Policy Analysis Skills of Present and Future Students – <i>Nitish Kumar Arya</i> | 88 |
| 14. Tech-infused Advancement for Indian Higher Education – <i>Kiran Lata Dangwal and Surbhi Sharma</i> | 91 |
| 15. The Pace of Skill Development: A Significant Indicator of the Future of India – <i>Tanushree S Bhargava</i> | 97 |
| 16. Assessing the Infographic Skill in Educational Landscape for the New Age Learners – <i>Rakhi Sawlani</i> | 101 |
| Convocation Address – <i>Somaiya Vidyavihar University, Mumbai</i> | 106 |
| Campus News | 108 |
| AIU News | 110 |
| Book Review Timely and Insightful – <i>Sanjay Kumar Das</i> | 115 |
| Theses of the Month (Humanities) | 121 |
| Advertisement | 124 |

EDITORIAL

'Only Humans Need Apply' can most possibly be the criteria for application to jobs in times to come. When we think of the future of work, what is the scenario that we visualize? Offices with robots and humans working together? While no one can predict the future with absolute certainty, it's clear that the world of work is changing, just as the world itself is!

The future of mankind will be marked by enormous changes in economic, social, political, environmental, and technological spheres. One of the major leading technologies among others that will have a high impact may be Artificial Intelligence (AI) and Generative (AI). Together, these trends are likely to affect the quantity and quality of available jobs, as well as how and by whom they will be carried out in the future. Combined with a general increase in the demand for higher-level skills, these trends may lead to a further increase in inequality and other side effects. Moreover, the new forms of work will obviously raise serious concerns about the nature, quality, and ethics of jobs that will arise. There are also significant challenges associated with increased Liberalisation, Privatisation, Globalization, and Market demands. The speed of technological changes are unimaginable. 3G brought data, 4G video, and 5G provide B2B use cases like machine-to-machine communication, providing us with connected stadiums, factories, and cars. In future people will be connected everywhere, anywhere, anytime, making it a hyper-connected world that will trigger new disruptive models which may or may not be in the interest of human beings and the Planet. Given the real possibilities of revolutionary changes in all walks of life, policymakers and educationists are facing challenges to make educational reform a success to cope with the challenges of the future. Each of these will require an appropriate attention, action and direction from the field of higher education to cope with the consequences of changes.

One of the Abraham Lincoln's quotes as cited in the internet says, "Best way to predict the future is to create it." Here comes the role of Higher Education institutions (HEIs). HEIs are citadels of civilization, dedicated for generation, dissemination and preservation of knowledge for the sustainable development and eternal welfare of humanity. They are the places primarily responsible for preparing future citizens as well as future leaders with advanced knowledge and skills to shoulder nation-building and contribute to socio-economic development.

The future of work refers to an informed perspective on what businesses and other organizations need to know about how work could shift (given digitization and other trends), plus how workforces and workplaces can prepare for those changes, big and small. Therefore, what we teach in higher education is of cardinal importance. Higher education for the future should be able to respond adequately to the expectations of the fast-changing society, economy and technology. On the one hand there would be

increasing demand for affordable, equitable and quality education and the demand for skill-based education for gainful employment and entrepreneurship. On the other hand, there will be revolutionary changes in the pedagogy, content and the delivery methods to keep pace with the needs of the economy and society.

The vision and mission for development of education appropriate to the future should look far ahead seeking emerging educational opportunities and make creative innovations. There is an urgent need to understand the pace of development and assess the future possibilities for education and learning. This will enable the future graduates make informed choices for setting better and long-range work opportunities so that no one is left behind. Best way to do this is to design and implement curriculum allowing learners to develop a creative mindset and the mental elasticity to invent, discover and produce original ideas relevant to the future technological age. The key is augmenting and utilizing technology to help humans work better, smarter, and faster. Secondly, instead of viewing these machines as competitive imposters, we can see them as partners and collaborators in creative problem solving. And probably this is what we have to communicate to our future generation.

Let's put all our efforts to make future of work *the best!*

Sistla Rama Devi Pani

Setting the Tone for AIU West Zone Vice Chancellors' Meet on Future of Work and Skill Development

Pankaj Mittal* and Sistla Rama Devi Pani**

The Association of Indian Universities (AIU), one of the premier higher education institutions in India, was established in 1925. It plays a vital role in shaping Indian higher education by being a research-based policy advice institution to the Government of India in the fields of Higher Education, Sports, and Culture. One of the key activities of the AIU is to convene the Vice Chancellors' Meets at the Zonal and National levels to discuss various issues related to higher education. India is a country with a large geographical area, for ease of reaching out, AIU has grouped the member HEIs into 5 zones—East, West, North, South, and Central. Each zone is constituted of HEIs located in 5-6 States grouped in that Zone. Thus, 5 Zonal Meets and one National Vice Chancellors' Meet are organized annually. These Meets are important platforms not only to discuss the significant issues of higher education but also to play a catalytic role in finding solutions for different problems of higher education through collective wisdom. Further, AIU carries forward the voice of the participating leaders of higher education to appropriate agencies and authorities for their dispensation. Every year in the Annual Vice Chancellors' Meet, a specific theme that is of topical significance for the higher education community is taken up for discussion. As a run-up, subthemes related to the main theme are discussed in the Zonal Vice Chancellors' Meets.

AIU Vice Chancellors Meet–2023-24

Projecting the landscape of higher education in the year 2047 shall involve a lot of speculation, as the future will depend upon the complex interplay of social, technological, economic, and cultural factors. Based on current trends and potential developments, it is the right time to discuss on theme related to

prospective Higher Education in 2047, to provide a glimpse into the potential directions higher education could take by the year 2047, when India celebrates 100 years of independence. The *Amrit Kaal* from 2022 to 2047 holds a lot of potential, in terms of shaping our higher education to meet the challenges of the 21st century. Therefore, for the year 2023-24, AIU has chosen the main theme as 'Higher Education@2047'. Under this overarching theme, the following themes are proposed for the AIU's Zonal Conferences:

North Zone: ***Globalization and Internationalization of Higher Education***

South Zone: ***Digital Transformation in Higher Education***

East Zone : ***Integrating Bhartiya Knowledge System (BKS) with Higher Education***

West Zone: ***Future of Work and Skill Development***

Central Zone: ***Nurturing Research and Innovation Ecosystem***

West Zone Vice Chancellors' Meet on 'Future of Work and Skill Development'

The future of work and skill development is undergoing significant changes due to many technological advancements, evolving work environments, and shifts in global economies which mainly include Automation and AI, Digital Literacy and Tech Skills, Remote and Flexible Work, Soft Skills and Emotional Intelligence, Lifelong Learning, Data Literacy, Globalization and Cross-Cultural Competence, Entrepreneurial Mindset, Environmental and Social Responsibility, etc.

The future of work will be categorized by technological advancements, evolving work structures, and the need for adaptable and diverse skill sets. Those who are willing to embrace change, prioritize continuous learning, and develop a combination of technical and soft skills will be well-

* Secretary General, Association of Indian Universities, New Delhi-110002. E-mail: sgoffice@aiu.ac.in

**Editor, University News, Association of Indian Universities, New Delhi-110002. E-mail: rama.pani2013@gmail.com/
ramapani.universitynews@gmail.com

prepared for the challenges and opportunities of the future job market.

The two-day event will include the following 3 Technical Sessions to discuss the concerned topics:

- i. **Technical Session--1: *Sustainable Careers: Navigating a Dynamic Workplace***
- ii. **Technical Session-2: *Human-centered Skills in a Tech-driven World: Soft Skills and Emotional Intelligence***
- iii. **Technical Session-3: *Resilience and Adaptability: Impact of Gig Economy on Higher Education***

Sustainable Careers: Navigating a Dynamic Work Place

Sustainable careers comprising of opportunities which not only provide financial stability but also align with an individual's values, skills, and personal growth. These careers must thrive in the face of changing job markets, technological advancements, and societal shifts. Navigating a dynamic work landscape and building sustainable careers in the face of rapid technological advancements and shifting job markets requires a well-prepared strategic approach. The nature of work is evolving, with gig work, remote work, and freelancing becoming more prevalent. This theme may examine strategies for building sustainable careers in this dynamic work place. The main points of discussion for the sustainable careers would be on how to prepare students for a sustainable career while emphasizing on entrepreneurship, work-life balance, and strategies for continuous learning to ensure long-term career viability.

Human Centered Skills in a Tech Driven World: Soft Skills and Emotional Intelligence

In a tech-driven world where automation, artificial intelligence, and digital tools are becoming increasingly prevalent, human-centered skills, particularly soft skills and emotional intelligence, play a significant role in fostering effective communication, collaboration, and overall success. While technology is reshaping industries, these human centered skills are essential for building strong relationships, understanding and meeting human needs, and navigating complex social and professional interactions. The session will deliberate on the significance of soft skills like communication,

critical thinking, emotional intelligence, adaptability, and collaboration. Conference sessions would discuss how these skills can be integrated into the course curriculums to enhance employability, promote effective teamwork, and enable students to thrive in diverse work environments.

Resilience and Adaptability: Impact of Gig Economy on Higher Education

In this rapidly changing world, adaptability and resilience are very critical skills. The gig economy, characterized by short-term, temporary, or freelance work arrangements, has had a significant impact on various aspects of Higher Education. Overall, the gig economy's influence on Higher Education underscores the need for institutions to be agile, responsive, and forward-thinking in their approach to curriculum development, instructional methods, and support services. By understanding the dynamics of the gig economy, higher education may prepare students for the challenges and opportunities of the modern workforce. This impact of gig economy is observed on the way students approach education the skills they acquire and how educational institutions adapt to the changing needs of the workforce.

Deliberation on this theme would deliberate on how individuals and organizations can prepare students to thrive amidst disruptions such as economic shifts, pandemics, and technological upheavals. Conference sessions might cover topics like change management, crisis response, and strategies for staying relevant in unpredictable environments.

Participation and Organization

Vice Chancellors of Indian Universities, Experts from the Government of India, Apex Bodies of Higher Education, and Academia will be speakers and Session Chairs. Experts from international organizations will also be invited to contribute. Discussions will be conducted in English. Sessions will be in a blended mode. The speakers, chairs, and participants need to be informed in advance about the mode through which they would like to participate the Meet.

Format and Approach

The Sessions will be of 1 Hour and 30 Minutes each. In each Session, there will be experts from Government, HEIs, and ICT. Presentations will

be followed by interaction and Q and A. Based on deliberations, a commitment statement will be framed for the universities to further the cause of Higher Education in India. In addition to academic deliberations, capacity development initiatives will be taken by forming a group of Vice Chancellors who will work on various dimensions of Transformative Higher Education.

Conclusion

To prepare for the employment scenario that has been impacted by the future, the entire skill ecosystem will need to be reoriented and reorganized. There is a critical need to start skilling our potential workforce with a view on the emerging technologies and the future of work.

It is therefore need of the hour for higher education institutions to take the baton and lead the institutions to work toward the creating work ecosystem for future. It is in this context that this AIU West Zone Vice Chancellors' Meet is very significant. The recommendations of this Conference will constitute the discussions in the Annual Meet. On the basis of the recommendations of this theme in the Annual Meet, '*University Action Plan on Future of Work and Skill DEvelopment*' will be prepared which will be a handy guide not only for Higher Education Institutions of the Country but also for the universities of other countries. A Policy Document will also be prepared and presented to the Government of India.

□

Opinions expressed in the articles published in the University News are those of the contributors and do not necessarily reflect the views and policies of the Association.

Somaiya Vidyavihar University, Mumbai: A Profile

Somaiya Vidyavihar University, Mumbai is hosting the West Zone Vice Chancellors' Meet—2023-24 of the Association of Indian Universities (AIU) on December 19-20, 2023.

Somaiya Vidyavihar University was established under the Somaiya Vidyavihar University, Mumbai Act, 2019 which is an Act of the Maharashtra State Legislature dated 29th June 2019. This University is recognised as a Private University under Sections 2(f) and 22 of UGC Act of 1956. The university started functioning as an academic unit in August 2019 to build a world-class research and teaching institution, that is global in the reach of its ideas, and universal in its service.

About the Founder

Padma Bhushan Shri Karamshi Jethabhai Somaiya was born to humble beginnings and rose to become one of the doyens of the industry in Western India. In 1939, Shri K J Somaiya launched two sugar factories – in Sakarwadi and in Laxmiwadi to mark the launch of his own sugar business. He soon came to be known as the Sugar King of India.

Shri K J Somaiya's first initiative in education was the founding of a school in 1942 in rural Maharashtra, to provide quality holistic education. It was founded on the belief that education is an important pillar of nation-building with the power to change lives and that it is the duty of the privileged to provide education to the needy. He later founded the Girivanvasi Pragati Mandal, The K J Somaiya Medical Trust, the Girivanvasi Education Trust, and sister institutions to make great citizens of India and the World.

Shri K J Somaiya laid the foundation for Somaiya Vidyavihar in 1959. Today, it has grown into a large educational complex spread across 50 acres, with 34 institutions catering to diverse fields of education such as Humanities, Engineering, Education, Medicine, Commerce and Business Studies, Management, Pure Sciences, Mass Communication, Design, Religion and Culture, Sports and Music with more than 39000+ faculties and staff. The motto of Somaiya Vidyavihar University is ज्ञानादेव तु कैवल्यम् Knowledge alone liberates. The mission of the university is 'to nurture excellence and provide freedom of possibilities in education and research for fostering a culture

of creativity, innovation, leadership, responsible citizenship, service and all-round growth'.

Institutions and Colleges

Somaiya School of Design

Somaiya School of Design, supported by Research Innovation Incubation Design Lab (riidl) is a leading Startup Incubator (supported by DST, BIRAC Government of India, and MSInS, Government of Maharashtra) and has built a Global Design and Innovation ecosystem. After facilitating 120+ startups and 5000+ innovators, it is now launching the Research Innovation Design Lab Academy to offer a Bachelor of Design Course in the multidisciplinary campus of Somaiya Vidyavihar University. With 30 Students per batch, the program offers 4 years of Experiential Learning. The program has an evolving curriculum based on Design, Technology, Business, and Humanities. The school has diverse faculty and world-class laboratories to build prototypes. The school has strategic partnerships, field visits, projects & internships for experiential learning and offers international student exchange programs. The school receives grants to support innovation.

K J Somaiya College of Education

K J Somaiya College of Education is a constituent college of the Somaiya Vidyavihar University. Reaccredited with an A grade by NAAC, the college is ranked 5th best college by India Today. The college is also an IGNOU Study Centre.

K J Somaiya College of Engineering

K J Somaiya College of Engineering is a constituent college of the Somaiya Vidyavihar University. The college offers Bachelor's, Master's, and Ph.D. in Engineering fields. Practical and theoretical knowledge goes hand-in-hand with the programmes. Awarded an 'A' Grade by NAAC, the college has an almost 100% placement record.

S K Somaiya College for Humanities, Business Studies and Sciences

A constituent college of the Somaiya Vidyavihar University, S K Somaiya College offers programmes

in Humanities, Business Studies, and Sciences. The college has a 360-degree career transformational setup with eminent teachers and experts from the industry. The college has a student-centric approach and offers academic flexibility-Major, Minor, honours, and Internships and placements.

Department of Library and Information Science

A constituent college of the Somaiya Vidyavihar University, the Department of Library and Information Science offer Masters and Doctoral degree programs in Library and Information Science incorporating the i-School concept.

K J Somaiya Institute of Management

A constituent college of the Somaiya Vidyavihar University, the K J Somaiya Institute of Management offers various full-time and part-time postgraduate programmes in management. Ranked 45 by NIRF 2023, the institute is among the top 25 management institutes and top 10 private sector B-schools in India. The institute is Certified as ISO 9001:2015 and ISO 29990:2010 by Bureau Veritas Quality International and is AACSB Accredited.

K J Somaiya Institute of Dharma Studies

The K J Somaiya Institute of Dharma Studies brings together three institutions that have an established presence in the field of religion, culture, and philosophy: the *Bharatiya Sanskriti Peetham*, the Centre for Buddhist Studies, and the Centre for Studies in Jainism. The institute has been selected for a prestigious grant under the Indian Knowledge Systems Division by the Ministry of Education, Govt of India with an approved project budget of Rs 18,27,000 (Eighteen Lakh Twenty-Seven Thousand).

Somaiya Sports Academy

A constituent college of the Somaiya Vidyavihar University, Somaiya Sports Academy is an integral part of the Somaiya Vidyavihar trust and has international standard infrastructure for sports like Athletics (all disciplines), Lawn Tennis, Basketball, Badminton, Squash, Football, Volleyball, Roller Skating, Cricket and a fully equipped gymnasium. Students of the campus have access to all the facilities and also have exposure to coaching in various sports. We cater to individuals who aspire to compete at a high level and provide world-class

coaching for the same with internationally certified coaches in all sports.

Maya Somaiya School of Music and Performing Arts

Somaiya Vidyavihar University has decided foresight to introduce and encourage Music Education and Training in its core subjects of Arts, thereby recognizing its importance and value in the coming times. Somaiya University is stepping into the world of Music and Performing Arts, with world-class facilities, equipment, and eminent faculty.

Somaiya Institute for Research and Consultancy

Somaiya Initiatives for Research and Consultancy (SIRAC) is committed to the pursuit of excellence in research and aims to lead the national agenda across the spectrum of science and technology, humanities, and social responsibilities.

Faculty and Staff Development Centre: Somaiya Vidyavihar University

Somaiya Vidyavihar University Faculty & Staff Development Centre (SVU-FSDC) was established w.e.f. 1st June, 2023. SVU-FSDC aims to facilitate and equip academicians with new-age skills and to synthesize theory and practice for a better classroom experience.

School of Civilisation

The School of Civilisation recently instituted by the Somaiya Vidyavihar University is primarily a research and publication initiative for knowledge creation in the areas of Asian Studies, African Studies, and South American Studies. The School plans to undertake comprehensive and integrated research on the cultures of Asia, Africa, and South America to examine civilisational exchanges and conversations between nations, people, and philosophical traditions. The School of Civilisation is headed by Padma Shri Prof. G. N. Devy.

Centre for Kachchh

The Centre for Kachchh is an academic institution under the School of Civilisation dedicated to the research and study of the Kachchh district in Gujarat. This centre focuses on various aspects of Kachchh, including its culture, history, geography, and socioeconomic dynamics. The Centre for Kachchh aims to promote a deeper understanding of this region and contribute to its sustainable development.

Innovation, Incubation and Entrepreneurship Cell

Research Innovation Incubation Design Laboratory Foundation (riidl Somaiya Vidyavihar) was set up in the year 2010, on its Mumbai campus, by Somaiya Vidyavihar and supported by Somaiya Trust. It was created to drive innovation & and entrepreneurship and currently facilitates 39,000+ students and 1800+ faculty on the campus as well as outside.

Registered as a not-for-profit Section 8 Company, Research Innovation Design Lab (riidl) Somaiya Vidyavihar Somaiya Vidyavihar has incubation centers, co-working spaces, and lab facilities in the heart of Somaiya Vidyavihar's Mumbai campus. Business incubators of Research Innovation Design Lab are supported by DST, DBT-BIRAC, the Government of India, and MSInS, Government of Maharashtra. Aspiring entrepreneurs from across India including students, faculty, or researchers—can meet to connect, collaborate, and tap into a vast array of resources to help develop their ideas and inventions into startup companies.

Research Innovation Incubation Design Laboratory Foundation, Somaiya Vidyavihar supports the creation and incubation of early-stage companies from ideation to commercialization by providing them with resources, labs, government grants, investor connections, funding, and mentorship. riidl Somaiya Vidyavihar has incubated over 200 startups and facilitated in creation of 600+ full-time job and internship opportunities with a community of over 850 maker teams/innovator teams with a viewership of more than 104k views from an audience of over 105 countries including 1000+ cities across the globe while the total valuation of startups incubated at riidl Somaiya Vidyavihar is over INR 1226 Cr and revenue generated by the startups is over 290 Cr.

Research Innovation Incubation Design Laboratory Foundation, Somaiya Vidyavihar has been bestowed with the National Award for the year 2020 in the Emerging Technology Business Incubator category by the Department of Science & Technology, Government of India.

Research Collaborations

To promote research and collaborations, the University has signed several functional MoUs with institutions and industries in India and abroad like the Michigan State University, Shimadzu, BASF India Ltd., Indian Merchant Chamber of Commerce & Industry, and Venture Center, to name a few. The university

has several internally funded research projects in the form of Seed Funding for individual and collaborative research.

International Collaborations

Somaiya Vidyavihar University envisaged internationalization strategy to foster global competencies in our faculty, students, and curriculum. Our initiatives are in alignment with the National Education Policy, 2020 to attain the highest global standards in the quality of higher education and to strategically position ourselves to cater to the needs of the global knowledge society. In the process of internationalization of education, the Office of International Affairs, SVU has hosted more than 100 foreign university representatives from Argentina, Australia, Austria, Belgium, Canada, China, Egypt, Finland, France, Germany, Greece, Hungary, Italy, Israel, Japan, Kazakhstan, Kenya, Netherlands, New Zealand, Russia, Singapore, Spain, Switzerland, South Africa, Taiwan, UK, USA on Somaiya campus to discuss the scope of cooperation.

Somaiya Vidyavihar University is actively engaging foreign universities from the USA, Europe, Africa, Asia, and Oceania region and has several MOUs for faculty and student exchange programmes, joint research, publications and conferences, and curriculum development. It has a faculty exchange programme and student exchange program for a semester with various partner institutions in the USA, Germany, Austria, and France. It had extended collaboration with a few foreign universities for funded research projects. Currently, SVU has multi-institutional international research projects on sustainability with Aston University, Coventry University (UK), Michigan State University (USA), and Peter the Great St. Petersburg Polytechnic University, Russia. SVU is further strengthening cooperation with foreign universities to develop joint academic programs and attract foreign students.

PhD Centre

Somaiya Vidyavihar University has a rich heritage of knowledge sharing, experiential learning, and sustainable solutions for critical development. Its research efforts aim to develop scientific knowledge, interdisciplinary research, and scientific engagements with the wider community.

In the Academic Year 2020 – 2021, SVU proudly inaugurated its first Ph.D. programme, representing a significant milestone in its academic journey. The

university comprises EIGHT distinguished faculties: Engineering and Technology, Management Studies, Dharma Studies, Sciences, Humanities and Social Science, Commerce and Business Studies, Music and Performing Arts, Education, and Language and Literature.

Currently, SVU offers 34 PhD programmes across these diverse faculties. A total of 107 recognized and experienced PhD Guides play a pivotal role in guiding and mentoring the PhD scholars. PhD guides consistently dedicate themselves to publishing research papers in reputed journals that are indexed in Scopus, Web of Science, and ABDC, generation of intellectual property through patents and copyrights, and securing extramural grants. At present, SVU proudly boasts 200+ PhD research scholars, marking a significant achievement in its ongoing pursuit of academic excellence and research innovation.

Public Lecture Series

Somaiya Public Lecture Series is one of our prominent educational outreach programmes intended to share scholarly insights on contemporary issues, cutting-edge research, science and technology policy, and innovations with the society at large. Somaiya Public Lectures are organised by Somaiya Institute for Research and Consultancy. The University brings eminent teachers, researchers, policymakers, educationists, scientists, writers, jurists, innovators, and social workers to offer an insider's view of their area of work to the cross-section of society. This activity forms part of the efforts of the Somaiya Group of Institutions to contribute knowledge, thought leadership, and innovative ideas to the general public, faculty & students in a contextualised manner. The programme showcases dynamic speakers through several community-focused talks across a range of disciplines encouraging constructive debate on issues of regional and global relevance. The speakers share their knowledge, network with the stakeholders, entertain, and inspire. Some of the eminent speakers at the Somaiya Public Lecture Series have been Dr. Ganesh Devy, Dr Devdutt Pattanaik, Dr B M Hegde, Dr R Chidambaram, Dr Larry P Walker, Dr Darlie Koshy, Prof Porous Olpadwala, Dr C G Krishnadas Nair and Prof Ramgopal Rao.

Intellectual Property Rights

The purpose of IPR Cell SVU is to provide an encouraging environment to the faculty, staff

members, and students for the creation of intellectual property. IPR Cell is committed to encouraging, protecting, managing, and commercializing Intellectual Property such as Patents, Copyrights, trademarks, etc. generated through Somaiya Vidyavihar University. Faculty and students can actively participate in the IPR filing process in different disciplines of Arts, Commerce, Humanities, Engineering, and Technology. Over 35 IPRs have been filed since the inception of the IPR Cell in February 2022.

SVU Library

Somaiya Vidyavihar University library functions in the Hub and Spoke model. Where the university library functions as a hub and other constituent college libraries as spokes. Each constituent college library caters to the requirements of its parent institution and provides the required resources and services to the institution's faculty, students, and staff members.

However, the Global Common Circulation (GCC) policy is adopted at the Somaiya Vidyavihar University campus so that any individual from any Somaiya institution can avail of the resources and services from any Somaiya library. Apart from this, the users of the library have access to many services such as circulation, online reservation, self-renewal, database access, reference services, Current awareness services, user orientation, and many more are provided through different sections of the library such as the Journal Section, Circulation Section, Reference section Newspaper Reading Section, etc. also various events are organised including orientation, training sessions, book exhibition.

Somaiya Vidyavihar Libraries were automated by using BOOKWORM, an in-house Library Management Software (LMS) developed in Oracle. Some of the key features and library automation are - Fully automated Circulation, Online Search for Resources through WebOPAC, Self-Checkout, Global Common Circulation (GCC), Automated Reminder email, Online Reservation Policy, and Self-Renew facility. An Online Public Access Catalogue facility OPAC is available @ [_https://opac.somaiya.edu/](https://opac.somaiya.edu/) that enables speedy searching of library databases including books, reference books, journals, and audio-visuals available in all libraries of Somaiya Vidyavihar. Constituent college libraries of Somaiya Vidyavihar University also collaborate

with other libraries to access their resources such as DELNET. University Library has a membership of INFLIBNET services, NDLI, etc.

The budget of the University Library in FY 2022-23 is more than 4cr whereas the total budget of all libraries at SVU is more than 12cr. The total area covered by all libraries of all SVU constituent college libraries along with the University library is 2994.7315 sq.m.

The SVU libraries provide access to a wealth of information resources ranging from print books and journals to online databases that assist library users in their learning and research. All the constituent college libraries along with the University Library hold approximately 2,42,784 print books out of these 34,765 are standard reference materials. All libraries of SVU subscribe to 196 print journals along with 43 newspapers in various Indian languages. Full-text databases comprise IEEE Xplore, Science Direct, EBSCO Business Source Complete, JSTOR, Springer Nature, Wiley Online, Taylor & Francis, and various subject-specific databases like ASME, ACM, CAS SciFinder, Indiatat, bibliographic databases such as Web of Science and Scopus and others.

The University Library promotes research by subscribing to research tools such as Grammarly for grammar and English communication, Typeset for formatting software, Turnitin, an important tool for plagiarism detection, and SPSS for statistical analysis.

These databases can be accessed from campus as well as remotely <https://library.somaiya.edu/user/login> thus empowering the users to retrieve

the required information without any constraints of access to the library. Apart from this Management and Engineering College subscribed to more than twenty- five databases as per their requirement. In addition to these databases and eJournals SVU libraries hold 6829 CDs, 07 Kindle, and 20290 ebooks for access to faculty members and students.

DSpace digital library software is also implemented in SVU library for the development of the Institutional Repository of all the institutions. This can be accessed by all which increases the visibility of the documents uploaded. <http://repository.somaiya.edu/>

Hostel Accommodation

At the throbbing 50 acres of campus, the Somaiya Vidyavihar University has hostels that provide home-like comforts to students belonging to the diverse cultures of India. Some of the key features of the hostels are: a safe space through a high-security system where security guards are stationed at the hostel 24 hours a day besides providing fire safety and smoke detectors; exclusive dining and mess facility given to our students; clean, safe, and cold/hot water available; ATM and vending machine (for snacks) facility is available 24 hours and Network Printer facility during working hours; Wi-Fi LED TV exclusively available for all resident students; paid laundry service is provided, and cleanliness is ensured through professionally trained housekeeping staff; a gym facility; a fully equipped Satellite Medical Centre; and mess facility with 4 meal a day is available for the students inside the hostel building.

□

ASSOCIATION OF INDIAN UNIVERSITIES
AIU House, 16, Comrade Indrajit Gupta Marg
New Delhi 110 002

The payment to Association of Indian Universities may be made in the following Bank Account through / NEFT / RTGS / UPI etc. for **Subscription** and **Advertisements**:

| | |
|-------------------------------|---|
| Bank Account No. | 0158101000975 (Saving Account) |
| Beneficiary Name | ASSOCIATION OF INDIAN UNIVERSITIES |
| Bank & Branch Name | CANARA BANK, DDU Marg, New Delhi-110002 |
| MICR Code | 110015005 |
| Branch Code | 0158 |
| IFSC Code | CNRB 0000158 |
| PAN NO. | AAATA0407F |
| GST Regn. No. | 07AAATA0407F1ZG |

After remitting the payment, please share the details (Transaction No. / UTR No. with date and Amount) to advtn@aiu.ac.in (For Advertisements) and subsun@aiu.ac.in (For Subscription).

Skilling India: Setting the Stage for a Comprehensive Renaissance

Nalin K Shastree*

Stride towards Reshaping the Developmental Landscape of the Nation

India, a land of diverse cultures, rich history, and vibrant traditions, is poised at a momentous juncture in the 21st century to position the nation as a developed powerhouse by aiming at a visionary odyssey of the vision of *Viksit Bharat@2047*, which indeed is a pledge to carve India's destiny over the next two decades. In a momentous stride towards reshaping the developmental landscape of the Nation, the launch of the '*Viksit Bharat @2047*' by the Hon'ble Prime Minister has emerged as a transformative initiative, which unfolds a unique intervention sought to tap into the boundless energy and skills of the youth, channelling their creative prowess into tangible contributions, which would act as a catalyst for change. He has stated about his determination to shape the nation's destiny, transcending the realms of economic growth to encompass a holistic transformation touching every aspect of societal progress by emphasizing the pivotal role of teamwork and collaborative creativity of the people of India, especially the youth. This transformative vision encapsulates the aspirations of a nation that seeks not just economic prosperity but a harmonious blend of social equity, environmental sustainability, and efficient governance.

"Education, or the transmission, acquisition, creation and adaptation of information, knowledge, skills and values, is a key lever of sustainable development. This is based on a vision of inclusive societies in which all citizens have equitable opportunities to access effective and relevant learning throughout life delivered through multiple formal, non-formal and informal settings" (UNESCO, 2012). Consequently, SDG 4 on education includes two targets on skills development, namely target 4.3 (equal access for all women and men to affordable quality technical, vocational and tertiary education), and 4.4 (number of youth and adults who have relevant skills for employment, decent jobs and entrepreneurship). In addition, skills development has been viewed as indispensable for the achievement of target 8.6 (by

* *Officer on Special Duty to Vice Chancellor, Jain Vishva Bharti University Ladnun. E-mail: nalinkumarshastree@yahoo.com*

2020 substantially reduce the proportion of youth not in employment, education or training) and 8.b (youth employment). Skills development is also crucial for the achievement of SDG 5 (gender equality), as well as SDG target 4.5 (gender disparities in education). Other critical factors include employment and productivity policies to influence the demand side of the labour market, respect for workers' rights, gender equality, and health and safety standards; good labour relations and social dialogue; and effective social protection (ILO; 2008)."

Historical Perspectives: Lessons from Global Transformations

As India stands at a crucial juncture, poised to take off on its growth trajectory, it is important to realise that tremendous dedication and belief in India's destiny, immense desire, potential, talent and capabilities of the Indians, especially the youth, coupled with steadfast leadership, are contributing to realise this potential through linking the educational curriculum to the industries and enhancing the overall skills and ensuring that India's youth become both the "agent of change" and the "beneficiary of change".

There would be enormous work needed to be undertaken in a mission mode to make India the *Viksit Bharat* by 2047, which would require chalking out a bold, ambitious and transformative agenda, and its involvement with all stakeholders. The vision to achieve the goal of the developed Nation shall behold different aspects of development, including economic growth, social progress, good governance, and environmental sustainability and all such aspects would require skilled persons, and dedicated persons to contribute.

Laying the Foundation for a Brighter and Developed India: Empowering through Skilling

Skills development has emerged as a cumulative process that occurs at every stage, takes place in a variety of settings, engages a highly diverse clientele, involves multiple delivery mechanisms, and must constantly respond to changing occupational requirements. An efficient skills development system embraces the entire spectrum of education and training

and provides opportunities for lifelong learning. The economy requires advanced, flexible and fungible skills. Workers must be able to adjust not only to domestic shifts in demand but also to what is happening in the global economy and labour market. Further, with the right skills in the workforce, industries can be more productive and competitive; and the economy can grow faster and create more and better jobs. Additionally, skills are essential both to reduce poverty and to improve personal well-being as cognitive, social, and technical skills affect wage premiums, earnings, and employment and occupation status. While a skilled workforce is necessary for growth and for alleviating poverty, skills do not automatically lead to jobs and growth. Skills development needs to be part of a comprehensive economic development strategy, job creation and lifelong skills development should be pursued together.

There is a vital need to revive the great legacy of ours, as India leaps into the cusp of its growth with more than 54% of its total population below 25 years of age; thus, making us one of the youngest nations of the world. Also, the next 20 years will see India's labour force increase by 32% while the rest of the world sees a decline of 4% (Nehru, 2017). The unified force of experience, intellect, and passion in the operation is needed to be synchronized for building the developed Nation. The problems of a multilingual, multicultural, and multiethnic population exposed to poverty, illiteracy, and unequal and underdeveloped growth in the diverse segments of the country are aggravated by the insufficient infrastructure in educational and training institutions. Therefore, the insufficiently skilled workforce is to be re-skilled/up-skilled to assume greater responsibilities at all levels. An estimated 65 per cent of workers in India are aged 15 to 59, with an average age of 29 compared to China and other OECD countries. Approximately 335 million people are currently employed in the United States today. They are largely uneducated and have little or no experience. Approximately 59 million of the 70 million predicted to enter the market will be in the 15 to 30 age category (ILO, 2008). To address all of the concerns of globalisation, knowledge explosion and distribution, and skill development competition, the Indian government has launched a number of initiatives, including Skill India, Digital India, Start-up India, and Make in India. Many groups are attempting to improve people's skills. (a) Directorate General of Training (DGT), (b) National Skill Development Corporation (NSDC), (c) Indian Institute of Entrepreneurship (IIE), (d) National Skill

Development Agency (NSDA), (e) National Skill Development Fund (NSDF), (f) National Institute of Entrepreneurship and Small Business Development, (g) Skill Sector Councils, (h) ICT Academy, and respective State Skill Development Corporations. To impart and upgrade abilities, numerous organisations and universities offer a variety of certificate, diploma, and postgraduate diploma courses. The aspiration and ambition of the Indian Government is to make India the world's "Skill Capital."

The jobs that have driven rapid economic development in the past, from agriculture to light manufacturing, are disappearing and the jobs of the future will be ever more technology-intensive – requiring a higher-skilled workforce. To access these jobs, people will need skills to be able to analyze, adapt, problem-solve, manage and work in an increasingly connected way. There is, therefore, no time to lose and it is required to work towards developing a national agenda to support India's growth goals and sectoral goals.

The Governmental Interventions: Improving Economic Activities and Creating Scope for Employment

The Government of India introduced the initiative of 'Skill India' in 2015, with an objective of training over 40 crore Indians in various industry-related jobs by way of minimizing the skill gap in a person and ensuring that he or she develops appropriate skills. The main skill development scheme under Skill India has been the 'Pradhan Mantri Kaushal Vikas Yojana' (PMKVY), with the objective to encourage youth to take up training for a better livelihood. This comprised of the Short-term training as per the National Skills Qualification Framework. These laid an objective of creating a workforce empowered with skills, knowledge, and qualifications and helping the youth gain access to decent employment opportunities in both organised and unorganised sectors. Under this programme the scheme of UDAAN was launched, in which Polytechnic institutions were established. However, the need to modify the scheme according to the current and emerging job requirements that should enable the current and future growth of the nation has been felt. An emphasis has been laid on the quality of the content and its delivery, which should be adopted in such a way so that skill development and capacity can be enhanced. Connections to skill enhancement, employability and job opportunities are required to be established as effective outcomes of the scheme (Nehru, 2022).

Skill India programme has faced multiple challenges, which comprise of insufficient infrastructure and capacity, insufficient institution-industry linkage, mobilisation, scalability, mismatch of skills and a mindset, which doesn't allow to respect the skill ecosystem.

Start-ups Churning into Unicorns: Changing an Entire Ecosystem of Employment Generation

The multidisciplinary approaches developed by some institutions have played a significant role in fostering innovation and entrepreneurship in young and passionate minds. This has led to exponential growth of start-ups and unicorns in the country. According to a UK-based payroll and accounting firm study, the Indian Institute of Technology (IIT) ranks as the fourth-largest producer of unicorn start-ups in the world. The intellectual power, innovative thinking, creative application and technology combined with the fertile economic ground to experiment in a market full of challenges and opportunities have led to significant growth of the start-ups, leading many to turn and become unicorns (Nehru, 2022 a). Most of the start-ups have successfully generated large-scale employment and have leveraged new technologies in addition to infusing innovative solutions. It's amazing that India has seen exponential growth for unicorns with a whopping 66 per cent growth. In 2021, more than 44 unicorns were born in India, with a total valuation of \$92.77 bn. Delhi NCR, Mumbai and Bangalore were among the top cities besides Hyderabad, Chennai and Ahmadabad, where young minds of India found a fertile ground to launch their ideas and set up their headquarters (Nehru, 2022 a).

Skilling India: Role of Skill Universities

Skill Universities have been established in India as the University of Applied Sciences, which provide a common platform of higher education and academic programmes at all levels (Certificate, Diploma, Associate Degree, Degree and Postgraduate Programmes generally in vocational domains and, Doctorate Degree in restricted domains) along with non-credit educational programmes for the workforce. China, Japan, Korea, Finland, Germany, Hong Kong, Netherlands, Sri Lanka, Sweden, France and Switzerland are some of the countries having SU's and have granted a recognition status to offer academic degrees.

The Skill Universities have aimed to equip students with quality skill education to enable access to aspirational jobs and inculcate an entrepreneurial

mindset and entrepreneurship. They have further aimed to integrate the use of the hand, head, and heart for balanced living and engagement in lifelong learning. The focus has been on teaching both self-reliance and lifelong independence and growing the wisdom towards nurturing and valuing interdependence. Such institutions are going a long way in increasing employability which indeed is the need of the hour. These institutions are making efforts to become a scalable, sustainable and affordable vehicles to massify higher education by innovations.

Historical Background: The Ecosystem of Skilling

The histories of nations often bear witness to turning points that catapult them into eras of rapid growth and development. Japan, in the aftermath of World War II, experienced the "Japanese Post-War Economic Miracle," a period of unprecedented economic growth that propelled it to global prominence. Germany, too, witnessed the "Wirtschaftswunder," an economic miracle that reshaped its economic trajectory and laid the foundations for a competitive economy. Singapore, in the 1960s and 1970s, underwent a transformation from a developing nation to one of the wealthiest countries globally.

The entire seriousness about skills started decades back, when the late Prof CK Prahlad from University of Michigan started his work on India@75 and embarked on the goal of progressively skilling and upskilling 500 million people by the time-independent India becomes 75 year old in 2022. The Nation has come a long way since then with the creation of NSDC and its training partners, the formation of Sector Skill Councils, the strengthening of ITIs, creation of an industry-friendly apprenticeship regime, the evolution of National Skills Qualification Framework, the establishment of NSDA as a regulator, setting up of Pradhan Mantri Kaushal Kendras at district level, formation of state-level skill development missions, greater participation of industry in VET, recent creation of NCVET and a variety of such measures. While a lot has been achieved in the last 10 years, the enormity of the task is such that we still have a long way to go.

Skill University: An Emergence of Need-centric Concept

Skill Universities have made an effort to repair the broken employability of students and improve employer connectivity. These institutions have aided in providing a skilled workforce for the industry, trade and the service sector and at the same time have

tried to satisfy parents and students that they get the best return on their investment. They have significant difference in their approach, objective and function; some of the same may be viewed as under:

- 1) It facilitates the supply of skilled manpower to employers and ensures them that the human resources have been trained with the curriculum suited for their trade.
- 2) Its classrooms have four dimensions: on-campus, on-line, on-site, and on-the-job.
- 3) It is able to provide on-demand, on-the-go, always-on, rolling admissions, continuous assessment, and qualification modularity.
- 4) It offers modularity in the curricular design.
- 4) It may have alternative sources of financing — employers, students, CSR, and loans through employers. For example, in the case of the Gujrat government's Skill University, 97 per cent of the university's budget comes from employers.
- 5) It strives to change the existing paradigm of skilling, make skill acquisition aspirational and provide an opportunity to all for skilling, up-skilling, and re-skilling.
- 6) It supports and nurtures entrepreneurs and entrepreneurship.

Skill Universities in India: Success Stories

Although few in number, Skill Universities have contributed significantly in empowering the youth and enabling them to find respectable job or to become an entrepreneur. Some examples are as follows:

Shri Vishwakarma Skill University, Haryana (SVSU)

This first Skill University in the Public Sector has started functioning with a thrust to inculcate employable skills amongst its students. It has identified areas relevant to the Industry landscape in India and the World and devised its Course Curriculum in tune with the demand of the market ecosystem. With the zeal to dismantle the boundaries between “knowledge” and “skill”, the SVSU has devised an exceptional Kinder Garden to Post Graduate Model which ensures that learning does not happen in silos. The teaching pedagogy consists 40% of theory and 60 % of skill components. Programmes in SVSU have experiential learning which is integrated with classroom, practical, OJT and National Apprentice Promotion Scheme. Various courses are Diploma of Vocation (D. Voc.), Diploma, Bachelor of Vocation

(B.Voc), B.B.A, Postgraduate Diploma, Master of Vocation (M.Voc.), Kaushalaya Setu, etc. Skill Faculty: Skill faculty of Engineering and Technology, applied science and humanities, Management studies and Research, Skill faculty of agriculture. The strength of the University lies in its approach to designing the curriculum in light of industrial needs, ensuring on-job training through its Industry Integration Cell and enhanced placement rates, which have touched 81% in the present year. It also has started the JRD Tata Industry Mentorship Programme”, an opportunity for industry professionals to mentor the teaching staff of the university. The scheme will support teaching staff to understand the industry processes and requirements in order to enhance the learning in the classrooms. In addition, it is also affiliated some polytechnic colleges and through these institutions, it effectuates the academic programmes with the OJT component.

The Delhi Skill and Entrepreneurship University (DSEU)

This is a relatively young institution in Delhi, with its presence since August 2020 and has a mandate to equip students with world-class skill education to enable access to aspirational jobs and inculcate entrepreneurial mindset and entrepreneurship. DSEU aims to create a win-win for the youth and the industry by filling the existing gaps in skill training.

The University wishes to change the existing paradigm of skilling, making skill acquisition aspirational and providing opportunities to all for skilling, up-skilling and re-skilling. Besides, DSEU aims to support and nurture entrepreneurs and provide quality mentorship to steer the entrepreneurial journeys of those interested, by providing incubation, and constant support. It affiliates the polytechnic colleges and in addition, it has University Departments. However, its OJT component is not as strong as the same of SVSU.

Bhartiya Skill Development University (BSDU), Jaipur

BSDU has thirteen Skill Schools with globally benchmarked skill curricula and a true mix of Swiss and Indian faculty members. The whole training is based on the Swiss Dual System comprising of OJT and Vocational School which has been adopted after carrying out due modifications to suit the Indian industry. Skill Schools at BSDU Jaipur are School of Automotive Skills, Computer Skills, Electrical Skills, Entrepreneurship Skills, Manufacturing Skills, Woodworking Skills, Refrigeration and Air

Conditioning Skills, Health care and paramedic Skills etc. However, placement has not shown encouraging results.

Skill Development Institute of India (SDI), Ahmadabad, Gujarat

Implemented Sectors are Hydrocarbon, Assistant Technician- Drilling (Oil and Gas), Assistant Technician- Production (Oil and Gas), Pipe Fitter City Gas Distribution, Sewing Machine Operator, Solar PV Installer (Suryamitra), etc.

Rajasthan ILD (Institute of Leadership Development) Skills University (RISU)

List of sectors implemented are Faculty of Agriculture and Allied Fields, Aerospace and Aviation, Beauty and Wellness and Communication Design, Equipment and Machine Maintenance, Emerging Technologies, Fashion Design etc. Skill courses are B. Voc. in Electrical Appliance Services and Maintenance, Building Construction Technology, Interior Design, Automotive Maintenance, Service and Repair etc. Diploma in Food and Beverage Production, Advance Diploma in Beauty Cosmetology, Diploma in Fire Technology and Industrial Safety Management, etc.

Centurion University of Technology and Management (CUTM), Bhuvaneshwar, Odhisa

Its courses are delivered through the following schools: Engineering and Technology, School of Vocational Education and Training, M.S. Swaminathan School of Agriculture, etc. Different institutes opened under CUTM are The Institute of Knowledge Societies (IKS), etc.

Team Lease Skills University (TLSU), Vadodara, Gujarat Campus

B. Voc. programmes would address the domain of Commerce and Management, Hospitality and Tourism, Information and Technology, Mechatronics, Health, life and Applied Sciences, etc.

Symbiosis Skills and Open University (SSOU), Pune

List of courses: B.Voc. in Digital Media and marketing, Retail and-commerce Management, Ports and Terminal Management, Logistics and Supply Chain Management. B. Voc. in Automobile Engineering, Construction Engineering and Infrastructure Management, Mechatronics Engineering, Computer Science and IT (Cyber Security), B. Voc. in Beauty

and Wellness, Data Science, PG-Diploma in Data Science and AI, Di- etetics, M. Voc. In Mechatronics (IoT, AI and Robotics), etc.

Skill universities are also coming up in Andhra Pradesh, Assam and Jharkhand.

Skill Universities can provide a vertical bridge from vocational education to related academic programmes. Industries are at the heart of curriculum design, implementation, internship, assessment and job placement for monitoring and evaluation, stage-wise. These institutions have the potential to provide increased access and flexible approaches and expedite learning experiences in local/community skills. Collaboration with industry, and other Universities/institutions globally will catalyze learning/teaching skills and help to offer better academic programmes, training, research and development. This will ensure dignity, relevance and mobility of qualification in the youth of the Nation.

Demographic Dividend: Harnessing the Benefits

India is at a crossroads, where the same population, which has the potential to generate a demographic dividend, can also become a disaster if not utilized properly. Demographic dividend can't remain neutral if it's not tapped. If India succeeds in tapping the potential of its surging population, India can emerge as an economic superpower. However, the fact remains important that the growth benefit of a demographic dividend is not automatic. Much depends on whether the increase in working population can be trained, and enough jobs created to employ the 10 million more people who will join the labour force every year. While digital technologies may enable the creation of new products and more productive jobs, they may also substitute existing jobs. India may not be able to take advantage of these opportunities, due to a low human capital base and lack of skills.

Lack of jobs combined with a demographic dividend will increase the share of the population that is dependent on the working population increasing the economic insecurity of the elderly, as there will be fewer people generating wealth. Whether the demographic dividend promotes growth or transforms into a curse depends on how prepared the states that should benefit from a young population are. For example, Bihar, Uttar Pradesh and other lagging states will experience a much bigger bulge in working population than more developed states like Haryana, Maharashtra, Tamil Nadu etc. Further, these less-developed states are also the least prepared to

take advantage of the demographic change they will undergo.

There is a need to catalyse the efforts for skilling the youth so that their employment potential is raised. Promotion of manufacturing activities at a large scale is the need of the time, where employment generation potential is high. Promoting MSME sector shall be able to generate meaningful employment will be very productive. The informal sector which generates a significant level of employment has been taken care of in the latest policy of the Government which hopefully shall benefit the workers.

There lies a great opportunity to leverage our demographic dividend as an unprecedented resource for wealth creation that will outpace much of the world as a global HR powerhouse. The mantra should be to 'Build your skills, not your resume'. Education will not ensure employment. Skilling will.

Looking Beyond: Envisioning a New Tomorrow

It is required to aim at inspiring for an entrepreneurial spirit among the youth and the mantra of People-powered development for making the Vikas Bharat is to be chanted religiously. The skills gap in youth must be minimized. Therefore, re-imagined education frameworks have to be evolved, since time and resources are essential to acquire the in-demand and future-proof skills; needed for the evolving job landscape. An intervention in designing collaborative projects between industries and the educational institution must expose the students to real-world challenges, fostering critical thinking and problem-solving abilities. In addition, powered by the AI, simulating real-world scenarios, enhancing problem-solving skills and critical thinking are other significant areas to address. As we navigate the future of skilling, the collaboration between traditional pedagogy and AI-driven innovations is all set to promise a dynamic learning experience.

The horizon is expanding because of emergence of the new technologies. According to Nehru (2022 b) Five sub-sectors AgTech, Blockchain, Advanced Manufacturing and Robotics, AI and Big Data, Fintech are growing in size at an astounding pace, with an average 107 per cent rise in early-stage funding deals and 43 per cent growth in exits. AI, Big Data and Analytics are the largest sub-sector, comprising nearly 27 per cent of all global start-ups. Other sectors like cyber-security, ed-tech, clean tech and gaming are also maturing at significant rates, seeing a collective

growth of 33 per cent in funding. With such progress, not only India can address the issues of employability and livelihood besides transforming certain sectors for their social and economic output.

Further, designing the models of On Job Training by way of focusing on various dimensions of industry integration is important. The provision of compulsory On Job Training, where students complete the programme in the industrial premises and credits earned are accumulated in the ABC is an idea worth implementation. The students should also get stipends from the industrial partners. Academic programmes should run with the association of an industrial partner so that on-job training are facilitated. Such programmes may be designed after due diligence and after taking into consideration the industrial needs and evaluating the market requirements and trends. Other dimensions may address the industry customization of the academic programmes and the same may get evolved into an aggregator model, where a programme suited to a cluster of industries is customized.

Integrating Job Training with industries should be allowed beyond the geographical limits shall enhance the job potential of a programme. Collaborations could also be made possible in coming times with foreign institutions, which are likely to open their campuses in our country and many more new ideas. The UTSAH (Undertaking Transformative Strategies and Actions in Higher Education) Portal should be made more vibrant for industrial collaborations in order to envisage for making a bright future for our young boys and girls.

References

1. UNESCO (2012). Education and Skills for Inclusive and Sustainable Development beyond 2015, New York: UN System Task Team on the Post-2015 UN Development Agenda.
2. ILO (2008). Conclusions on Skills for Improved Productivity, Employment Growth and Development. Geneva.
3. Nehru, Raj (2017). Bridging the Industry-Academia Gap. <https://www.peoplesmatters.in/article/entrepreneurship-start-ups/raj-nehru-on-bridging-the-industry-academia-gap-15599>
4. Nehru, (2022 a). Pradhan Mantri Kaushal Vikas Yojana (PMKVY): Effectiveness & Opportunities to Improve, Social Science Research Network. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4076810
5. Nehru, Raj (2022 b). Start-up India: Bharat Boosting Start-ups, <https://organiser.org/2022/01/26/13792/bharat/startup-india-bharat-boosting-startups/> □

Examination-centric Coaching Can Be Very Depressing

R V Raja Kumar*

India is aspiring for sustainable economic development and prosperity with benchmark goals like becoming the third largest economy by 2027, a developed country by 2047 as per global benchmarks, and further on to attain its glorious past, while preserving its core value system, culture and traditions^{1,2}. Programmes like ‘Atmanirbhar Bharat’, ‘Make in India’, ‘Digital India’, and ‘Fit India’ are how the expected growth is being steered. Holistic and fruitful education is a fundamental requisite for fulfilling these national aspirations in a sustained way.

About 21% of Indians are adolescents and are in the age group of 10-19 years and the number stands at the phenomenal 253 million as per 2011 senses^{3,4}. Naturally, it is the future of the nation. Development of skills to their full potential is essential for the realization of aspiring economic growth, universal basic education, social outcomes, and poverty alleviation.

While the aspirations and requirements stand as above, reports that 35% of recorded suicides are in the age group of 15 to 24 years and that there is a rising tendency in the adolescents (24 so far till Sept in Kota) ring alarm bells⁵⁻⁹. It was also reported that 33 and 24 students respectively at the 23 IITs and 31 NIT's ended their lives during the last five years. It appears that there is a lack of clarity in society on the responsible root causes. It certainly calls for addressing this issue including a detailed study on the same and taking urgent remedial actions. This article addresses this issue of concern taking the observations and experiences gained in dealing with the student's academic affairs over the past three decades, into consideration.

Attributes Relevant to Educating the Students

In the present context, it is essential to recapitulate the core attributes essential for the right education system that capitalizes on its full potential. Adolescents, being in the transition between

* Former Director, IIT Bhubaneswar, Former Vice Chancellor, Rajiv Gandhi University of Knowledge Technologies, AP and Emeritus Professor, IIT Kharagpur. E-mail: rkumar@ece.iitkgp.ac.in

childhood and adulthood, are in an important stage of human development involving rapid physical, cognitive, and psychosocial growth. During middle and late adolescence, they develop the capacity to acquire advanced forms of reasoning and executive functioning and appreciate non-routine, multi-dimensional, dynamic, and partly open-ended problems.

An education system that provides the knowledge and skills for lifelong learning, productive work, right decision making, and social engagement, integrated with scope for physical development and laying of foundation for good health, a peer environment that fosters psychological development apart from scope to pursue other extra-curricular interests are essential requirements. That is, the system needs to be diverse giving importance to curricular, extra-curricular, and constructive peer interaction and social engagement. It is also essential to provide adequate time and opportunity for in-depth immersive work too.

Enlightening Education is Positive and not Distressing

True education imparts knowledge, enlightens, trains on skills, and builds character and personality¹⁰⁻¹³. Free and compulsory elementary education in the age group of six to fourteen years is considered a human right in our country. The benefits of education have been very well known and mankind has been giving utmost importance to education since time immemorial. It is appropriate to recall the following important facts about enlightening education, relevant, here:

- Education is a process of acquiring and absorbing knowledge, stocking experiences, and utilizing the same through critical thinking to carry on cognitive operations in worldly problems and it builds self-confidence.
- Education brings positive changes in a student, attaches a purpose for life, and kindles positive spirits.
- Enlightenment and human development through education raise rationalism, give personal fulfilment, and acceptance by society, and the state of being enlightened is very positive and reassuring.

- Knowledge is delicious in general, human beings have a quest for knowledge, its flavors are identified, and the acquisition of new knowledge is appetizing, more so for motivated learners.
 - Rote education may impede cognitive development.
 - An examination may frustrate a pupil, but not rightly practiced education, irrespective of domain and it doesn't drive one to commit suicide.
 - Experiential acquisition of knowledge through laboratory practice with hands-on and stocking of the experience as a cause and effect is in general interesting.
 - The interests of students are truly diverse and an unnecessary pressure to exercise lopsided choices in favour of popular ones against own inner choice can cause frustration, later in one's career.
- B. Classifying all possible questions in the examination into a set of representative or benchmark categories, creating short-cut solutions or procedures for each and vigorously training the students on these, rather than encouraging them to follow the path of concept and logical reasoning. Making a student practice on it repeatedly allocating as much time as possible for it by cutting time on the other components to memorize the solution procedures effectively and for achieving a high speed of answering in a test. It is nothing short of rote learning and the practice makes a student perfect in a blind way.
- C. Diluting or excluding the laboratory component presuming it is a waste of time since entrance tests do not typically test a student's hands-on skills, typically.
- D. Providing short-cut study material to the students instead of NCERT books or other technical books, despite that these were well written through a lot of effort,

Thus, in general, the process of learning is enjoyable in many dimensions. While the extent and the number of ways may vary from individual to individual, it is significantly high and learning can be effortless for a motivated learner. While designing an institutionalized system and practicing it, it is expected that this aspect is kept in mind. Distress is unlikely to happen in a healthy system.

Very often, the cut-shortening of credits of a programme is done in the name of reducing the burden and stress by underestimating the learning capacity of a student. Usually, the distress is caused by the drawbacks in the system rather than by the credit loading.

Prevailing Examination-centric Coaching Culture for Entrance Tests

On the contrary to tasteful education, with due respect to a select small fraction who impart a reasonably good education, a majority of the coaching centers for entrance tests believe and adopt practices such as the following which are undesirable in several ways as discussed below.

- A. Covering the theory ritualistically without giving much importance to concepts. For the coaching institutes, this is motivated by the fact that conceptual teaching to the understanding of the students takes time, it is difficult to find good teachers who can do justice to it, and the entrance tests are mostly problem-based.

It is not difficult to comprehend that no student can gain any knowledge out of this type of rote culture which may be basically termed, blind 'grinding'. Certainly, it cannot be called 'education', by any standards.

It appears that the majority of the coaching centers strongly believe that tackling the test problems through concept, logic and critical thinking is a longer route and despite its idiocy, the above blind memorizing of the solutions is a much more successful short-cut route. Indeed, it appears that they are very successful in delivering good ranks even to ordinary students by adopting this rote culture. It is disheartening that knowingly or unknowingly; society too finds it acceptable.

Major Observations from the Outcome

The scenario including the entrance test statistics, admission statistics, and monitoring the motivation level of students after taking admissions after an entrance test, yields a lot of information on the consequences of the prevailing coaching culture. A close observation of the same for the last 2 – 3 decades, brings out the following consistent revelations:

The top 15% of those admitted into premier institutes: They are brilliant, self-driven, can do their best of learning irrespective of the system, are

unspoilt by a coaching system, and come out with flying colours from a premier institute like an IIT.

The next good fraction of enthusiastic or motivated learners amongst the aspirants: A rote coaching culture may seriously affect their enthusiasm, confidence, and zeal, and a majority of them lose excitement and interest in learning, get derailed, and largely fail to make it to an IIT. A fraction of them may still make it to IIT but at the cost of being burnt out and developing indifference to learning. The counter-productive effect of the rote culture on the otherwise originally brilliant students is glaringly visible by observing the learning attitudes of those who make it to a premier institute as well as those who miss it.

Indifferent Learners

It appears that the rote coaching system has a very high degree of suitability for this class and possibly the system is created targeting the success of this class. It is found to be very successful in earning a good rank to those who are sold to the idea of blind memorization, though it fails to impart any valuable education to them.

Perhaps, this is the main reason for the success and building of the reputation of the coaching centers as successful institutes. But, as the academics of institutes like IITs are not designed to suit them, they take a back seat in education therein and finally manage to barely pass out without a substantial value addition. In the process sometimes, the institutes are also forced to make certain compromises on the regulations and academic practices to adapt the systems to be effective with the student intake.

A Silent National Loss Caused as a Consequence

Premier institutes like the IITs are meant to provide an excellent opportunity to category A above, and as good a fraction of category B, as possible, while the rest of the system takes care of the educational needs of the rest. It is within the reach of anybody's imagination that under any normal and healthy coaching system, it would have been smooth sailing for a category B student in any entrance test and secure admission in the top two-tier institutes with fair success. We may find a significant variation in their standards, but the same may mainly be attributed to the variations in the standards of their earlier education institutes. Despite such variations, given the motivation and excitement provided by

a premier institute, by and large, all of category B would make up their deficiencies within one or two semesters, undergo their education in full spirits and the result would be the creation of a very pleasantly rewarding human resource for the nation.

But under the current scenario, while category A is well taken care of, the whole of category B (barring a small fraction that went to good coaching centers) is found to suffer a strong counter-productive effect by the rote coaching culture. The IIT-type opportunity gotten by category C comes effectively at the cost of the better deserving category of motivated learners at B who couldn't make it.

Considering the entire class-12 pass-outs, category B is a hugely important class of learners and all of them deserve IIT-type or at least NIT-type education, if our country can afford to offer such an opportunity to all. The pitiable part is that this loss of spark and taking a back-seat by these genuine learners is not due to their fault, but due to the counter-productive effect of the indifferent coaching system. It is not difficult to perceive the loss in the quality of human resources generated in the process in the country and the huge cumulative negative impact and the serious and silent national loss it has been causing for the last several decades.

With their motivation seriously affected by the coaching centers, it is very difficult to estimate their number by observing the IIT students. However, the statistics show that about 8-10% of IIT students typically run the extra mile to earn a Minor alongside a typical 170-credit major and nearly 50% of the students earn a Cumulative Grade Point Average (CGPA) higher than or equal to 8.00. The Rajiv Gandhi University of Knowledge Technologies (RGUKT), an ambitious state university of the then combined Andhra Pradesh, where the author happened to serve as its founding Vice Chancellor and responsible for creating the engineering education including multi-disciplinary minors therein, has been admitting students based on class 10 marks/GPA into a 2-year pre-university course followed by a 4-year BTech equivalent, without an entrance test and it may be taken as a case without an entrance test. About 20% of the BTech students of RGUKT of its first batch itself earned a minor alongside a 180-credit major. The author personally expects the number of minors in the IITs also to stand around 20-25% like at RGUKT, had the IIT students pass through a no-

rote coaching system or a healthy education or at least through a typical college education. Arguably, this shortfall may be attributed to the loss of motivation due to the prevailing coaching culture which in the view of the author may be roughly estimated to be more than 50%.

Depression Caused by the Coaching Culture

As such the students at the plus 2 level are put under constant pressure to work single-mindedly, perform well, and secure a rank good enough to get admission into a desired branch in a desired institute against a huge competition. It can be admitted that the desired branch and institute are chosen based on the general and popular perception of society. For a long, the world understood competition, failures, and that only a percentage can make it finally. It is known and accepted that only one can win an Olympic gold. Silver and bronze medals and the berths in semi-finals and quarter-finals are only solaces.

However, the grinding type of exercises undertaken in tasteless rote coaching can drive a motivated learner into depression. A non-productive daily routine of this type that too for a few years or more which is also contradicting the typical learning style in one's earlier school learning, is very likely to drive one into confusion, and depression, and when coupled with the pressure to perform and fulfill the aspirations, it will become unbearable leading to frustration, anxiety, and severe depression, during the mid-course, itself, if not at its beginning. It is scientifically well-known that depression influences negative and suicidal thoughts and that it is a major cause with 20 times more vulnerability than a non-depressive case. The significantly large number of mid-course cases seen over the post-exam cases points the finger at the rote coaching rather than the competition or the aspirations or lack of opportunities.

With some, the depression due to the non-productive coaching may have a lasting effect and it may continue into the next phase of education when a student fails to recover from the depression. It may be recalled that a student when admitted into the next level of education in a dream profession in a sought-after institution like an IIT, is expected to show an extremely high level of enthusiasm in the new system unless he/she gets burnt out mentally and the enthusiasm was already extinguished by an unhealthy system. The lack of motivation, indifference

to education, and depression seen in a major fraction of the students and the suicidal tendencies found in the next level of education may be attributed to the lasting effect of the prevailing coaching culture adopted during the entrance preparations.

The present scenario urgently calls for all the stakeholders to work towards transforming the coaching culture to a healthy system in the interest of our youth, nation, and their aspirations. There is still a good scope for the coaching industry to run successfully while adhering to the values with commitment to true education and confining to ethics.

Concluding Remarks

The present article makes a critical study on the increasing tendency of adolescent students suffering severe depression leading to suicides during the mid-course preparation of typical coaching for entrance tests and also the unfortunate continuation of the tendencies after joining the next level of education in a dream profession and a premier institution.

In general, education is tasty, acquisition of new knowledge is appetizing, it raises rationalism, gives personal fulfillment, builds self-confidence and when rightly practiced, it doesn't drive one to develop suicidal tendencies. Education as a process of acquiring and absorbing knowledge, stocking of experiences, and utilizing the same through critical thinking to carry on cognitive operations in worldly problems builds self-confidence. On the contrary, with due respect to a select small fraction that imparts a reasonably good education, a majority of the coaching centers for entrance tests are found to believe and adopt practices that are predominantly rote type adopting blind practices. Though such practices have an apparent success in a typical entrance test, they cause a lot of damage, extinguish the excitement and enthusiasm to learn amongst the major class of motivated learners, and drive them to frustration, anxiety, and severe depression. Also, the undesirable practices make the deserving students go off the track and eventually lose interest in education for the rest of their lives. The net result of these undesirable practices is an enormous and silent loss to the nation.

This issue calls for an urgent correction in the coaching culture to transform it into a healthy system in the interest of our youth, nation, and aspirations, and the same is very much feasible without affecting

(contd. on pg. 62)

Sustainable Careers: Navigating a Dynamic Workplace

Harpreet Kaur*

The topic of the present article “sustainable careers: navigating through dynamic workplace” is as simple and complex as the definition of the term ‘sustainability’ has been. Therefore, I have attempted first to define what is meant by the term ‘career’ and secondly, ‘sustainable career’, and finally the concerns that arise in this context.

Definition of ‘Career’

A ‘Career’ is generally viewed as the pattern or sequence of work experiences that evolve over the life course.¹ Viewing a career as the evolution of work experiences over the life course implies that all individuals who are engaged in work-related activities have a career. Historically careers have been equated with high levels of work commitment, professional status, rapid upward mobility, or stability in any occupation. In view of Greenhous et al, if we view careers as the evolution of work experiences over the life course, we are able to reject the notion of historically equating careers as stated above.²

It is essential to understand career dynamics because all employees have a career and all such careers have substantial implications for organizational performance,³ personal identity, health, and well-being.⁴ Moreover, because careers are enacted within social contexts that include individuals’ families, employers, and national cultures, understanding how careers evolve provides insights into the connections between individuals and the broader societies in which they live.⁵

It is a well-known fact that ‘career’ and ‘employability’ are impacted by the economic growth of any country. Economic growth is a prerequisite for increasing productive employment which in turn depends not only on the rate of growth but also on the efficiency by which growth translates into productive jobs.⁶ India witnessed a boom in the service sector after its economic reforms in 1991. Liberalisation, Privatization, and Globalisation had an impact on the understanding of the terms ‘career’ and ‘employability’ due to changes in the career system. The focus on improving manufacturing in India for

the last few years also led to changes in the type of employment and opening up new career avenues. All such policy changes have transformed careers in significant ways in the past few decades and are also likely to continue for the foreseeable future. This is well exemplified in the statement of Shri Suman Berry, Chairman, NITI Aayog, “The pace of digitalisation has grown rapidly around the world, transforming societies and ushering in a new economic revolution with significant implications for the future of work and employment. India’s twin advantages of having a favourable demographic structure and the rapid proliferation of digital technologies position it to be at the forefront of this economic revolution.”⁷

Sustainable Career or Career Sustainability⁸

It is important to understand first what is meant by ‘sustainable career’ and why the discussion on ‘sustainable careers’ has come to the fore.⁹ The discussion on sustainable careers has become important in view of the current career trends which include the rise in precarious work¹⁰, growing job and economic insecurity, eroding health benefits, and longer work hours¹¹ and associated stress.¹²

Career sustainability as a phenomenon is considered to be still in its infancy.¹³ Going by the general understanding of ‘sustainability’, protecting and fostering (rather than depleting) human and career development with a focus on balance and renewal is sustainability.¹⁴ This definition is derived from the Brundtland definition of sustainability. The United Nations Brundtland Commission in 1987 defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”⁵

A sustainable career is defined as “the sequence of an individual’s different career experiences, reflected through a variety of patterns of continuity over time, crossing several social spaces, and characterized by individual agency, herewith providing meaning to the individual”.¹⁶

Newman used the term ‘sustainable careers’ to address the individual response to contextual transformations that emphasizes the interdependence and influence of social spaces. Since such social spaces

* Vice Chancellor, National Law University, Jodhpur, Rajasthan- 342304. E-mail: vc@nlujodhpur.ac.in

pervade career paths, they reflect how individuals and organizations must be open and flexible to change while seeking opportunities for renewal.¹⁷ In other words, every career or employment is not only influenced but has interdependence on surrounding social spaces which have a bearing on the individual reactions. He also suggests that individuals and organisations both should be open and flexible to adapt to changes as and when such circumstances or opportunities arise.

The sustainability perspective is considered to be a theoretical lens for career studies. It approaches complex contemporary backgrounds through a dynamic and systemic understanding of career phenomena.¹⁸ As a sustainability concept, a career has three essential conceptual foundations namely, career systems, career ecosystems, and career resilience.¹⁹ The concept of sustainability evolves with the dynamism and interactivity of career systems.²⁰

A career system is a setting in which careers are developed, such as the local, regional, sectoral, national, and global labour markets. A career actor is a person, organization, network, association, or national or global entity that participates in the career system. Career actors operate within labour markets which through transactions and interactions influence one another. They are parts of a social phenomenon in a global environment.²¹

Baruch had broadened the concept of the career system by introducing an ecosystem for career understanding in view of the contextual complexity.²² Such contextual complexity includes influences of the individual (demography, personality, attitudes), organizational (strategy, policies, practices), national (law, economics, labour market, culture), regional, and global (politics, society, regionalization, globalization). Therefore, it is vital to discuss the factors jeopardizing career continuity and sustainability.²³

The term 'resilience' refers to the theory of career motivation and is defined as the ability to adapt to changing circumstances, even when they are discouraging or disruptive. Given the dynamism of the ecosystem in which careers develop, sustainability is dependent not on stability, but on the resilience or ability to adjust, develop, and fit into an ever-changing work environment.²⁴ Thus, resilience is understood in conjunction with the concepts of career insight and career identity. Career insight is the ability to be realistic about oneself and one's career to improve the clarity of one's career

goals, whereas career identity is the degree to which people define themselves based on their jobs and the organization in which they work.²⁵ From this perspective, it can be said that resilience is directly related to the sustainability of an ecosystem.²⁶ A career ecosystem will be sustainable only if it has the resilience of its constituents.

Benefits of Sustainable Careers

Sustainable careers allow individuals to have positive career experiences in ways that promote organizational and individual effectiveness over a long period of time.²⁷ A sustainable career has the following essential characteristics:

- (a) sufficient security to meet economic needs,
- (b) fits with one's core career and life values,
- (c) flexibility and capability to evolve to suit one's changing needs and interests, and
- (d) renewability such that an individual has regular opportunities for rejuvenation.²⁸

Changing Dimensions of Work and Their Influence on Sustainable Careers

There is a growing disconnect between what careers are thought to encompass and the experiences of individuals. The myths that hard work, long hours, and continuous employment promote career well-being are not aligned with the present reality.²⁹ Careers are increasingly being characterized as having too much work to do in the time historically allotted for work, with rising time pressures (deadlines), increased velocity (pacing), and heightened load (quantity of work).³⁰ Technological innovations are also regarded as transformative and disruptive contextual forces that influence career development and the nature of work.³¹ These conditions have produced an increased potential for career burnout due to an increase in work demands and the reduction in the ability to control workload and intensity lessens, thereby the ability to integrate careers in a sustainable way while satisfying personal and family lives gets compromised. Therefore, it can be said that the concept of unlimited career opportunities has been modified due to restructuring as well as the demands of family and leadership roles.³² COVID-19 pandemic has also been a significant contemporary challenge that disrupted careers tremendously in organised and unorganised sectors both and has already impacted the shape of career development.³³ The livelihoods

of many unorganized and migrant workers were hit. States undertook a massive exercise of skill mapping, which directed the creation of livelihood opportunities and the identification of reskilling needs. The Central Government undertook initiatives for creating jobs at the local level and supporting migrant workers through different initiatives that focused on making workers self-reliant, helping them regain their confidence through livelihood support and social protection.³⁴ Recently a record-high attrition at the leadership level has been observed in Indian companies due to the external volatile environment. Such exodus has prompted companies to take immediate preventive steps to retain their top executives.³⁵

Stakeholders and Their Role in Sustainable Careers

As stated earlier, investigation into macro contextual influences on how individuals experience their careers is required.³⁶ The influence of institutions and macroeconomic as well as political factors that shape individual careers and workforces have been neglected so far.³⁷ The impact of such institutions and factors should be towards making careers more sustainable. It has also been observed that the restructuring of industries and sectors with restructured qualification requirements has increased unemployment due to redundancy. The education sector could not reciprocate as required and the slow response resulted in the unavailability of a skilled workforce.

The role of policymakers for the education sector and educational institutions becomes paramount to producing an industry-ready workforce. Policymakers must shift their efforts towards workforce employability and employment sustainability.³⁸ Industry-relevant innovative programmes with relevant curricula should be launched. The opportunities for experiential learning, engaging with concepts through practical applications rather than passive absorption, critical thinking, problem-solving, and creativity are the needs of the day for creating a sustainable workforce. The focus on continued education programmes for lifelong learning is still missing in the Indian educational system.

Sustainability development is not only evaluated through competency development but also interactions with other actors in which organisations occupy an important category.³⁹ Organizations must provide an environment conducive to edifying career

experiences.⁴⁰ The organization is a critical player in career sustainability through career management.⁴¹ Career customization and reduced working hours have emerged as effective practices for fostering sustainable careers. They provide an opportunity not only to balance intrinsic needs but also needs required by the organization and those related to other spheres of personal life.⁴²

There is a need for policies and practices facilitating the development and continuity of careers. Career mobility and internal mobility plans in the form of developmental compensation and alternatives to financial benefits are required.⁴³ The organization is approached as a sustainability facilitator through internal and external succession training programs,⁴⁴ with the promotion of practices allowing global careers⁴⁵ or preventing careers from plateauing.⁴⁶

The promotion of public policies focused on the inclusion and diversity of immigrants,⁴⁷ aging workers,⁴⁸ and people with disabilities are critical themes among governmental concerns.⁴⁹ Personal attributes of individuals, their energy and drive to take initiative, courage, conviction, communication skills, and the trust and belief in their talent by the organisation both are equally important. Individuals have to ensure their learning and growth along with resilience. Research is now being carried out at different levels for obtaining career sustainability from a workability perspective as under:

- (1) at the micro level, considering variables related to lifestyle, functional capabilities, personal experiences, and other features intrinsic to individuals;
- (2) at the meso level, focusing on the organizational environment and its impact on individual health (e.g., organizational policies and practices, leadership styles, diversity support); and
- (3) at the macro level, focusing on the influence of the broader social context (e.g., governmental laws).⁵⁰

Conclusion

In conclusion, it can be said that the sustainability challenges are encompassed by the unpredictable nature of contemporary careers and the complex factors embedded in individuals' lives.⁵¹ Transformation of traditional, hierarchical employment trajectories within the same organisation along with digital disruption has made sustainability appear to be increasingly problematic in many

key stages of the career life cycle. The interplay of social spaces in the development of sustainable or unsustainable career paths is also visible. For example, age discrimination is quite prevalent, older adults are often laid off before they plan to retire as industries are restructured and jobs are churned. Parents, caregivers for elders, and many high-talent individuals (especially women) often find it difficult to synthesize family demands with careers and leadership roles.⁵⁵

The overlapping of life spheres is reflected in the fluidity of contemporary career boundaries. Such boundaries are no longer limited to rigid career systems. There is a need for workplace flexibility. Companies may facilitate the renewal process by emphasizing its dynamics and the constant contextual interactivity of careers, particularly in non-work contexts⁵³ such as home, family, leisure, and other private life domains.⁵⁴

Hyper-personalized approaches for a diverse and ambitious workforce and initiatives to improve overall engagement and productivity levels within the organisation⁵⁵ are also important. The need for employee engagement, bridging of talent, and bridging of human and technological aspects of human resources are equally important.

At the individual level, endeavor should be made to develop or enhance skills and competence for new markets or new specializations and also on the interface between upcoming areas. At the individual level possibility of engaging career counsellors as important allies can be explored. It might help in promoting career satisfaction and well-being through more sustainable paths.

India is aiming to achieve SDG 8- “Promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” by 2030. It recognizes the fact that economic growth will be inclusive only if it creates jobs and decent work. Every sector has a booming phase. Jobs are created in the booming sector but available skills and competence required for such sectors do not reciprocate. Therefore, a certain level of foresight and proactiveness of all stakeholders is a must. Any discourse on sustainability cannot be without reflecting on its guiding criteria, values, and principles and is subjective by nature and open to debate.

End Notes

1. Arthur, M., B., Inkson K., and Pringle, J., K. (1999). *The New Careers: Individual Action and Economic Change*. London: Sage, available at <https://doi.org/10.4135/9781446218327>
- Moen P, Roehling P. (2005). *The Career Mystique: Cracks in the American Dream*. Lanham, MD: Rowman & Littlefield
2. Greenhaus, J., H., Callanan, G., A, and Godshalk, V., M. (2010). *Career Management*. Thousand Oaks, CA: Sage. 4th ed.
3. Higgins, M., C., Dillon, J., R. (2007). Career Patterns and Organizational Performance. *Handbook of Career Studies*.
4. Christie, A., Barling, J. (2006). Careers and Health. In *Encyclopedia of Career Development*, Vol. 1, ed. J H Greenhaus, GA Callanan, pp. 158–62. Thousand Oaks, CA: Sage; M Valcour, L Bailyn, MA Quijada. Customized careers. *Handbook of career studies*, 2007.
5. Mayrhofer, W, Meyer, M, Schiffinger M, Schmidt A. (2008). The Influence of Family Responsibilities, Career Fields and Gender on Career Success: An Empirical Study, *J. Manag. Psychol.* 23:292–323.
6. Employment Rich Economic Growth, International Labour Organisation, accessed on Dec 9, 2023, available at <https://www.ilo.org/global/topics/dw4sd/themes/employment-rich/lang--en/index.htm>
7. Message from Vice Chairman, India’s Booming Gig and Platform Economy Perspectives and Recommendations on the Future of Work, June, 2022, p v
8. The Contemporary Career: A Work–Home Perspective, *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 1:361-388, 2014, available at <https://doi.org/10.1146/annurev-orgpsych-031413-091324>
9. The Contemporary Career: A Work–Home Perspective, *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 1:361-388, 2014, available at <https://doi.org/10.1146/annurev-orgpsych-031413-091324>
10. Kalleberg, A.,L. (2009). Precarious Work, Insecure Workers: Employment Relations in Transition. *Am. Sociol. Rev.* 74:1–22.
11. Bianchi, S., M, Robinson, J., P, Milkie, M. (2006). *Changing Rhythms of American Family Life*. New York: Russell Sage
12. Job and economic insecurity along with associated stress was anticipated when both Amazon and Spotify decided to lay off staff in high numbers recently, Amazon India layoffs: Tech giant lays off about 500 employees in web services, HR teams: Report, Livemint, edited by Karishma

- Pranav Bhavsar May 1, 2023; Spotify CFO Paul Vogel to step down after mass layoffs at the company, Spotify announced laying off 17 percent of its workforce recently, <https://www.indiatoday.in/technology/news/story/spotify-cfo-paul-vogel-to-step-down-after-mass-layoffs-at-the-company-2473702-2023-12-08>
13. Akkermans, J., and Kubasch, S. (2017). Trending Topics in Careers: A Review and Future Research Agenda, *Career Development International*, 22(6), 586-627, available at <https://doi.org/10.1108/CDI-08-2017-0143> » <https://doi.org/10.1108/CDI-08-2017-0143>
 14. Newman, K., L. (2011). Sustainable Careers: Lifecycle Engagement in Work. *Organ. Dyn.* 40:136–43 , available at <https://doi.org/10.1016/j.orgdyn.2011.01.008>
 15. United Nations: Academic Impact: Sustainability, available at <https://www.un.org/en/academic-impact/sustainability>
 16. Van der Heijden, B., I., J., M., Houkes, I., Van den Broeck, A., & Czabanowska, K., (2020b) "I just can't take it anymore": How specific work characteristics impact younger versus older nurses' health, satisfaction, and commitment, *Frontiers in Psychology*. 11, 762.
 17. Newman, K.,L. (2011). Sustainable Careers: Lifecycle Engagement in Work. *Organ. Dyn.* 40:136–43, available at <https://doi.org/10.1016/j.orgdyn.2011.01.008>
 18. De Vos, A., Van der Heijden, B., I., J., M., and Akkermans, J. (2020). Sustainable Careers: towards a Conceptual Model, *Journal of Vocational Behaviour*, 117, 103196, available at <https://doi.org/10.1016/j.jvb.2018.06.011>
 19. Towards Career Sustainability: A Systematic Review to Guide Future Research, SciELO, Brazil
 20. De Vos, A., and Van der Heijden, B., I., J., M. (2017). Current Thinking on Contemporary Careers: The Key Roles of Sustainable HRM and Sustainability of Careers, *Current Opinion in Environmental Sustainability*, 28, 41-50, available at <https://doi.org/https://doi.org/10.1016/j.cosust.2017.07.003>
 21. Baruch, Y. (2015). Organizational and Labour Markets as Career Ecosystem. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of Research on Sustainable Careers* (1st ed., pp. 364-380)
 22. Baruch, Y. (2015). Organizational and Labour Markets as Career Ecosystem. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of Research on Sustainable Careers* (1st ed., pp. 364-380); An ecosystem is a system with interconnected actors who rely on one another for the overall system's effectiveness' Iansiti, M., & Levien, R. (2004), *Strategy as Ecology*. *Harvard Business Review*, 83(3), 6881, available at <https://hbr.org/2004/03/strategy-as-ecology>.
 23. McDonald, K., S., and Hite, L., M. (2018). Conceptualizing and Creating Sustainable Careers, *Human Resource Development Review*, 17(4), 349-372, available at <https://doi.org/10.1177/1534484318796318>
 24. Baruch, Y. (2015). Organizational and Labour Markets as Career Ecosystem. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of Research on Sustainable Careers* (1st ed., pp. 364-380). Edward Elgar Publishing.
 25. London, M., and Raymond, A., N. (1997). London's Career Motivation Theory: An Update on Measurement and Research, *Journal of Career Assessment*, 5(1), 61-80, available at <https://doi.org/10.1177/106907279700500105>
 26. Baruch, Y. (2015). Organizational and Labour Markets as Career Ecosystem. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of Research on Sustainable Careers* (1st ed., pp. 364-380)
 27. Herman, C, Lewis, S. (2012). Entitled to a Sustainable Career? Motherhood in Science, Engineering, and Technology, *J. Soc. Issues* 68:767–89.
 28. Newman, K., L. (2011). Sustainable Careers: Lifecycle Engagement in Work. *Organ. Dyn.* 40:136–43 , available at <https://doi.org/10.1016/j.orgdyn.2011.01.008>; Kossek EE, Lirio P, Valcour M. 2013b. *The sustainable workforce: organizational strategies for promoting work-life wellbeing*. Presented at Int. Conf. Work Fam., IESE, July 1–3, Barcelona, Spain.
 29. Moen, P, Roehling, P. (2005). *The Career Mystique: Cracks in the American Dream*. Lanham, MD: Rowman & Littlefield
 30. Skinner, N, Pocock, B. (2008). Work-life Conflict: Is Work Time or Work Overload more Important? *Asia Pac. J. Hum. Resour.* 46:303–15.
 31. Curşeu, P., L., Semeijn, J., H., and Nikolova, I. (2021). Career Challenges in Smart Cities: A Sociotechnical Systems View on Sustainable Careers, *Human Relations*, 74(5), 656-677.
 32. Sandberg, S. (2013). *Lean In: Women, Work, and the Will to Lead*. New York: Knopf
 33. Hite, L., M., McDonald, K., S., and Wayne, F. (2020). Careers after COVID-19: Challenges and Changes Careers After COVID-19: Challenges and Changes, *Human Resource Development International*, 23(4), 427-437.
 34. Preface, *Empowering Migrant Workers through Skill Development and Livelihood Generation*, Niti Aayog, June, 2022.
 35. Retention toolkit: India Inc readies golden handcuffs to arrest CXO attrition, Rica Bhattacharya, Dec 7, 2023 available at <https://economictimes.indiatimes.com/jobs/c-suite/retention-toolkit-india-inc-readies-golden-handcuffs-to-arrest-cxo-attrition/articleshow/105795675.cms>
 36. Baruch, Y., and Rousseau, D., M. (2019). Integrating Psychological Contracts and Ecosystems in Career Studies

- and Management, *Academy of Management Annals*, 13(1), 84-111.
37. Kossek, E., Valcour, M., and Lirio, P. (2014). The Sustainable Workforce: Organizational Strategies for Promoting Work-life Balance and Well-being. In *Work and Wellbeing*, ed. P. Chen, CL Cooper. Oxford, NY: Wiley-Blackwell, available at <https://doi.org/10.1002/9781118539415.wbwell030>
 38. Moriarty, J., Gillen, P., Mallett, J., Manthorpe, J., and Schröder, H. (2020). Seeing the Finish line? Retirement Perceptions and Wellbeing among Social Workers, *International Journal of Environmental Research and Public Health*, 17(13), 1-13, available at <https://doi.org/10.3390/ijerph17134722>; Tomlinson, J., Baird, M., Berg, P., & Cooper, R. (2018). Flexible careers across the life course: Advancing theory, research and practice. *Human Relations*, 71(1), 4-22, available at <https://doi.org/10.1177/0018726717733313>
 39. Heslin, P., A., Keating, L., A., and Ashford, S. J. (2020). How being in Learning Mode May Enable A sustainable Career Across the Lifespan, *Journal of Vocational Behavior*, 117, March, 103324, available at <https://doi.org/10.1016/j.jvb.2019.103324>.
 40. Barthauer, L., Kaucher, P., Spurk, D., and Kauffeld, S. (2020). Burnout and Career (un) Sustainability: Looking into the Blackbox of Burnout Triggered Career Turnover Intentions. *Journal of Vocational Behavior*, 117, 103334, available at <https://doi.org/10.1016/j.jvb.2019.103334>.
 41. De Vos, A., Dujardin, J., M., Gielens, T., and Meyers, C. (2016). Developing Sustainable Careers across the Lifespan: European Social Fund Network on Career and AGE (Age, Generations, Experience). *Springer International Publishing*, available at <https://doi.org/10.1007/978-3-319-47741-1>
 42. Straub, C., Vinkenburg, C., J., and Kleef, M. Van. (2020). Career Customization: Putting an Organizational Practice to Facilitate Sustainable Careers to the Test, *Journal of Vocational Behavior*, 117, March, 103320, available at <https://doi.org/10.1016/j.jvb.2019.103320>
 43. Chudzikowski, K. (2012). Career transitions and career success in the “new” career era. *Journal of Vocational Behavior*, 81(2), 298-306, available at <https://doi.org/10.1016/j.jvb.2011.10.005>.
 44. Grip, A., De, Fouarge, D., Montizaan, R., and Schreurs, B. (2020). Train to Retain: Training Opportunities, Positive Reciprocity, and Expected Retirement Age, *Journal of Vocational Behavior*, 117, March, 103332, available at <https://doi.org/10.1016/j.jvb.2019.103332>
 45. Baruch, Y., and Rousseau, D., M. (2019). Integrating Psychological Contracts and Ecosystems in Career studies and Management. *Academy of Management Annals*, 13(1), 84-111.
 46. Lin, Y., and Chen, A., S. (2020). Experiencing Career Plateau on a Committed Career Journey: A Boundary Condition of Career Stages, *Personnel Review*, 50(9), 1797-1819.
 47. Guo, L., and Baruch, Y. (2021). The Moderating Role of a City’s Institutional Capital and People’s Migration Status on Career Success in China, *Human Relations*, 74(5), 678-704.
 48. Peeters, P., et. al. (2019). Please Don’t Look at me that Way. An Empirical Study into the Effects of Age-based (meta) Stereotyping on Employability Enhancement Among Older Supermarket Workers, *Frontiers in Psychology*, 10, February, 249, available at <https://doi.org/10.3389/fpsyg.2019.00249>
 49. Gupta, A., and Priyadarshi, P. (2020). When Affirmative Action is not Enough: Challenges in Career Development of Persons with Disability, *Equality, Diversity and Inclusion*, 39(6), pp. 617-639.
 50. De Lange, A. H., Kooij, D., T., A., M., and Van der Heijden, B., I., J., M. (2015). Human Resource Management and Sustainability at Work Across the Lifespan: An Integrative Perspective. In *Facing the Challenges of a Multi-age workforce* (pp. 50-79). Routledge/Taylor & Francis Group.
 51. Baruch, Y., and Rousseau, D., M. (2019). Integrating Psychological Contracts and Ecosystems in Career Studies and Management, *Academy of Management Annals*, 13(1), 84-111; Hite, L. M., McDonald, K. S., & Wayne, F. (2020). Careers after COVID-19: Challenges and changes Careers after COVID-19 : Challenges and Changes, *Human Resource Development International*, 23(4), 427-437. <https://doi.org/10.1080/13678868.2020.1779576>
 52. Sandberg, S. (2013). *Lean In: Women, Work, and the Will to Lead*. New York: Knopf
 53. Newman, K., L. (2011). Sustainable Careers: Lifecycle Engagement in Work, *Organ. Dyn.* 40:136-43, available at <https://doi.org/10.1016/j.orgdyn.2011.01.008>
 54. Greenhaus, J., H., and Kossek, E., E. (2014). The Contemporary Career: A Work-Home Perspective, *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 361-388. <https://doi.org/10.1146/annurev-orgpsych-031413-091324>
 55. Meet Goals Early, Enjoy Four Day Work Week, Namrata Singh, *Times Business, Times of India*, Dec 6, 2023

□

Uncovering Educational Misalignments: A Closer Look at India's Flawed Learning Landscape

Neeraj Saxena*

Exploring the pivotal role of education in society, this article delves into the ongoing scrutiny and discourse surrounding the educational landscape in India, a nation marked by diversity and continual transformation. The educational journey, spanning from initial learning stages to advanced levels, is anticipated to foster critical thinking, creativity, and originality. However, a noticeable misalignment is apparent, where cognitive development stages seem out of sync with educational levels. This discrepancy manifests in an overemphasis on rote memorization and a deficiency in skill development. Utilizing the well-regarded Bloom's Taxonomy, this article aims to unveil the intricacies of this misalignment by aligning its hierarchical levels with the six stages of education: lower primary, upper primary, secondary, senior secondary, undergraduate, and postgraduate (including doctoral).

Each stage of cognitive development builds upon the previous one, nurturing a more intricate understanding of concepts and a higher level of cognitive competence. Consequently, the education system is anticipated to equip individuals with the essential cognitive skills and knowledge necessary for success in their chosen fields and meaningful contributions to society. The skills acquired at one level should serve as preparation for advancement to a higher tier, contingent upon a conducive environment and effective guidance.

When viewed from the perspective of the cognitive domain as delineated by Bloom's Taxonomy, a learner's progression follows the sequence of Remember, Understand, Apply, Analyze, Evaluate, and Create. The capacity to understand builds upon the developed ability of remembering, adhering to the hierarchical structure of any taxonomy. Similarly, the preparation of higher education learners to evaluate and create would be most effective if they were trained to analyze and apply at the secondary level, and understand and remember at preceding levels.

* Pro-Chancellor, JIS University. Kolkata-700109 (West Bengal). E-mail: nrjsaxena@gmail.com

Primary education concentrates on laying the groundwork for basic cognitive skills, such as literacy, numeracy, and social interaction. It predominantly involves nurturing fundamental cognitive abilities and acquiring essential knowledge to establish a robust educational foundation. Resources at the lower primary level, including teachers, books, and learning materials, focus on training learners in grasping and memorizing information. As students progress to the upper primary level, the focus should shift toward preparing them to assimilate knowledge, with information serving as a natural subset.

Building upon the groundwork established in primary education, secondary education aims to deepen cognitive abilities, critical thinking, and analytical skills. In terms of Bloom's Taxonomy, learners at this level should be equipped to apply and analyze the information or knowledge they have acquired, having been prepared in the preceding stage. The classroom environment should bridge the gap between theoretical concepts and real-world applications, enabling students to apply and analyze.

Resources should be allocated less toward preparing learners to remember and understand, as these aspects will naturally be taken care of. Teaching methodologies should not remain static, particularly when transitioning from the primary level to the secondary level. There should be reduced reliance on textbooks and a greater emphasis on the application and analysis of knowledge. A component of secondary education should transcend conventional classroom instruction, allowing students to connect their learning experiences with real-world scenarios.

As we move up the hierarchical structure into higher education, pedagogy, or rather heutagogy, should predominantly support the development of skills that enable learners to evaluate and create. The critical question here is whether learners can acquire these skills solely through reading books and following instructions from their teachers. The current education offered at this level appears to be corrective, restrictive, prescriptive, and facilitative, starkly misaligned with the desired focus on skill

development. Students entering higher education should have already mastered the skills of applying and analyzing knowledge, regardless of the subjects, and should be able to progress independently with the guidance of a teacher.

Let's now examine the fault lines. Rather than empowering learners to build upon their previous levels of education, we appear to be allocating resources to reinforce the lower levels, which appears to be a significant flaw. One of the reasons for this is the prevalent belief within the academic community that learners start with an empty slate, needing instruction (and examination) to remember, understand, apply, and analyze. However, these are skills that learners should ideally possess beforehand. Instead of focusing on assessing the retention of domain knowledge, the emphasis should be on evaluating the corresponding skills and abilities required for acquiring knowledge and higher-order cognitive skills.

Another fault line appears to be the focus on examining learners based on subjects rather than their skills across the 6 levels of Bloom's Taxonomy. While the former approach prepares students for passing examinations, the latter cultivates a mindset of lifelong learning. This seems to resonate with Swami Vivekananda's observation: "No one can teach anybody. The teacher spoils everything by thinking that he is teaching. Thus, Vedanta says that within man is all knowledge—even in a boy it is so—and it requires only an awakening, and that much is the work of a teacher." [<https://vivekavani.com/priyanath-sinha/>]

Practically speaking, there seems to be no distinction in the approach to learning, the structural setup, and assessments between the secondary and primary levels. The same holds true even for tertiary education. This is evident from the structure of our examination papers. Instead of focusing on assessing the abilities and skills necessary for application and analysis, questions at the secondary level predominantly assess remembering and understanding. The situation is disconcerting when undergraduate and postgraduate students are also examined primarily on their ability to remember and understand, with little emphasis on application and analysis, which align more with the demands of secondary education. It is indeed alarming that we are employing the same examination

approach across all levels, from primary to tertiary education.

As mentioned earlier, the dependency on textbooks or predetermined content and lecturing by teachers must be phased out as students' progress through the education levels, even more when knowledge stands democratized. This should coincide with the discontinuation of question papers that primarily test memory and understanding, even at the senior secondary level. College and university-level courses should be designed to promote evaluation and creativity skills that cannot be adequately assessed in time-bound and proctored examinations. Rather than proving their ability to memorize, students' time should be dedicated to creating knowledge through research, developing resources through innovation, and creating wealth and livelihoods through entrepreneurship. This issue may provide a significant reason why, as a nation, we lag in all three fronts.

While my elucidation of these flaws may appear to be an over-stretching and unworkable exercise, let me triangulate cognitive levels and educational levels and the types of teachers present in the system before the industrial age. Strikingly, there were six types of teachers in Indian literature: *Adhyapak* (transmitter of information), *Upadhyay* (knowledge giver), *Acharya* (skill imparter), *Pandit* (facilitator of deep insight), *Drishta* (visionary guiding thought processes), and *Guru* (awakening wisdom in the learner). An analysis of the roles of these teachers reveals a clear alignment with the six levels of education, from *Adhyapak* at the lower primary level to *Guru* at the postgraduate level. This also highlights the diminishing reliance on books or predetermined content; a *Drishta* or *Guru* teaching solely from a book would be unable to train learners to master the skills required for evaluation and creation. Lowering our guard in this respect would only produce graduates, not knowledge, resources, or livelihoods, which may also explain the relatively low volume of publications/ patents/ innovations compared to the enrollment rates in higher education.

Having drawn these connections which are redolent of alignment between cognitive and educational levels, let me return to scrutinize further what is going wrong. Higher education institutions are not sufficiently focusing on the development of higher-order cognitive skills, just as secondary

education institutions are expending resources and efforts primarily on understanding and remembering. Textbooks are excessively relied upon in secondary and higher education, where they should ideally serve as references during the process of solving open-ended problems rather than as tools for passing examinations. A reliance on book-based examinations persists across all levels, proving to be a bottleneck to fostering creativity.

Moreover, there has been a dilution in the intended role of teachers at almost all levels. This is directly attributable to the training that prepares them for roles that are less demanding than the roles they are expected to assume. The role of teachers and their engagement with students should reduce as students progress through the education system. While they might adopt the role of a sage on the stage in primary classes, they should transition to being guide-by-the-side, aiding students in applying and analyzing information, and engaging in demonstration and facilitation rather than adhering solely to an instructive mode in the senior grades of school.

A portion of secondary education should transcend traditional textbooks and classrooms, enabling students to establish connections between their learning experiences and the real world. Classroom windows should metaphorically open to the real world, allowing students the opportunity to apply and analyze concepts, which, in turn, would take care of their understanding and remembering. The involvement of teachers in the classroom should decrease, with their role as a guide, navigator, or pathfinder dominating over that of an instructor or lecturer. Evidently, the training of teachers in secondary schools does not correspond adequately with the role they are expected to play.

The persistence of failure or detention within our education system can be attributed to our insistence on perpetuating known knowledge across all levels, as well as our insistence that students adhere to it. As learners age and accumulate and build upon their cognitive skills, they should be relieved of the burden of what-to-learn paradigms and instead, transition into a system that emphasizes how-to-learn approaches. Minds are not sufficiently challenged to evaluate, judge, create, or assess, and the fear of failure fosters a culture of memorization, penalizing those who are unable to reproduce content from textbooks. Regrettably, even institutions of higher education prefer to err on the side of caution, choosing to operate within the lowest cognitive orders. This perpetuates a significant loss of potential.

Conclusively, it is pivotal to reevaluate the existing structure of the education system in India. A transformation that aligns the cognitive development stages with the educational levels, thereby fostering critical thinking, innovation, and creativity, is the need of the hour. Empowering students with the skills to evaluate, judge, and create, rather than emphasizing rote memorization, will pave the way for a generation of lifelong learners and innovators. The role of teachers should evolve to become facilitators and mentors, nurturing a culture of independent thought and analysis. Let us dare to dream of an education system that not only imparts knowledge but also nurtures the seeds of wisdom, creativity, and critical thinking, enabling our learners to thrive in a rapidly changing world.

Disclaimer: The views are Author's personal. □

TO OUR CONTRIBUTORS

Contributors are expected to submit only original articles for publication in the University News. If an article is found to be plagiarized Or compiled from ChatGPT it will be the sole responsibility of the contributor to face legal action, if any.

Editor

Future of Work and Skill Development: Initiatives and Implications for Higher Education in India

Sunil Kumar Singh* and Shravan Kumar Kushwaha**

The individual, the workplace, and the holistic skills of the individual impact the productivity of all types for the person, the institution, and the society as well. Some reports constantly indicate that anxiety and depression are on a constant increase globally. It reflects the deterioration in the status of holistic skills. According to a report, “World Health Organization says that without more treatment, 12 billion working days will be lost to mental illness each year to 2030” (The Guardian, 12 April 2016 theguardian.com). To add further according to WHO 28 September 2022, “*Globally an estimated 12 billion working days are lost every year to depression and anxiety at US\$ 1 trillion per year in lost productivity. Poor working environments – including discrimination and inequality, excessive workloads, low job control, and job insecurity – pose a risk to mental health. 15 percent of working-age adults were estimated to have a mental disorder in 2019*”. This is not impacted only by COVID but also by an overall deterioration in organizational institutional ethos and society in general as well. Therefore, we can clearly say that the social well-being, institutional work ethos, and the holistic skills of the individual are highly interrelated with each other. Further the “*..global jobs gap is projected at 453 million people in 2023, which is made up of 191 million who are unemployed globally, as well as 262 million people who want to work, but do not qualify as unemployed. This shows the magnitude of employment challenge that the world faces*”. (ILO Director General presentation on global employment trends 20-21 July, 2023, Indore at G20 Labour and Employment Ministers’ Meeting). Further, we also find that India as a nation is currently suffering a mismatch between supply and demand since the economy requires a larger number of “skilled” workers than are readily available. Knowledge and abilities are needed for a variety of jobs in the higher education sector like --- agriculture, manufacturing, health care, hospitality

* Professor, Faculty of Education, Banaras Hindu University, Kamachha, Varanasi-10, Uttar Pradesh. E-mail: sunil.kr.edu@gmail.com

** UGC-JRF, Faculty of Education, Banaras Hindu University, Kamachha, Varanasi-10, Uttar Pradesh

and tourism, banking and insurance, IT sector, education, and other services. According to the new Annual Employability Survey 2019 report by Aspiring Minds, 80% of Indian engineers are not fit for any job in the knowledge economy and only 2.5% of them possess tech skills in Artificial Intelligence (AI) that the industry requires. The skill development target group could include all members of the labour force, including those new to the market, and those in the organized and unorganized sectors. The value of certain skills has diminished significantly in recent years, and many of these skills may become obsolete in the coming years. Therefore, education must equip students with skills that will help them thrive in the 21st century. All this reflects the issues related to the under-skill, no-skill, unutilized skills, and so on. Whatsoever, it is related to the status of the skill, work, and employment, future of work, and skill in society globally.

The above trend is a global trend hence we can say that every country of the world including developed, developing, and underdeveloped is facing such a challenge. Education being the holistic grooming sector for every other professional sector has a very important role to play in all future societies. The pyramid of education has the higher education sector at the top. It is the feeder cadre for all other sectors of education hence it should be envisioned, planned, and executed very judiciously to develop holistically skilled human beings. Holistic skills are the skills that enable an individual to enable oneself ‘to harmonize the *Panchkoshas*’ for the best achievements. The World Health Organization (WHO) has recognized these skills and projected them as life skills. According to WHO life skills are “the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life.” The UNICEF has defined life skills as, “A behavior change or behavior development approach designed to address a balance of three areas: Knowledge, Attitudes, and Skills”. In other words, we can say that life skills are personal competencies that enable us to effectively handle life’s challenges and lead successful lives, thereby

maximizing our potential. These skills include psychosocial and interpersonal skills, which enable us to make informed decisions, solve problems, think critically, communicate effectively, build healthy relationships, empathize with others, and manage our lives productively. The WHO has identified ten core life skills that include Self-Awareness, Empathy, Critical Thinking, Creative Thinking, Decision-making, Problem-solving, Interpersonal Skills, Effective Communication, Coping with Stress, and Managing Emotions (*WHO, 1997*). Different countries across the globe are making efforts to develop these skills in their inhabitants and develop their individual and national productivity.

All this requires re-engineering their higher educational institutions in particular to address the widening gap between current higher education practices and future skill demands. It is of paramount importance for the sustained relevance and effectiveness of educational systems. The Fourth Industrial Revolution, marked by technological advancements, necessitated a recalibration of educational approaches to equip individuals with the skills vital for an evolving job market (*Schwab, 2017*). Ignoring this gap poses a risk of rendering graduates ill-prepared for the dynamic demands of the workforce, impacting employability and economic competitiveness (*World Economic Forum, 2020*). The role of National Education Policy- 2020 (NEP-2020) in this context is crucial. NEP emphasizes flexibility, interdisciplinary learning, and a holistic approach, aligning with the evolving needs of the job market (*Government of India, 2020*). It recognizes the necessity for skills beyond traditional academic domains, emphasizing: (i).Critical thinking, (ii). Creativity, and (iii). Adaptability. By incorporating NEP's principles into higher education practices, institutions can actively contribute to narrowing the existing gap and ensuring graduates are equipped with relevant skills (*Government of India, 2020*). The NEP-2020 has also visualized the future needs of 21st century 'India that is Bharat' and reflected some other relevant provisions.

Skill Development Focus in India and National Education Policy—2020 Provisions

As per PIB (2021) amidst the coronavirus pandemic, Shri Narendra Modi, Hon'ble Prime Minister of India said, "Mission of skilling, re-skilling and up-skilling the youth should go on

relentlessly." In the Indian culture, our ancestors have given immense importance to skills while celebrating the same, making skills a part of the joy of the entire society. People worship weapons on Vijayadashami, Farmers worship the crops and agricultural machinery on *Akshaya Tritiya*. Worship of Lord Vishwakarma has been a major festival in our country for the people associated with every skill and craft. As it is mentioned in the scriptures:

विवाहदिषु यज्ञेषु, गृह आराम विधायके ।
सर्व कर्मसु सम्पूज्यो, विश्वकर्मा इति श्रुतम् ॥

The *shloka* means that worship of Lord Vishwakarma is essential in various social events such as marriages, housewarming ceremonies, and *yagyas*, as it honors all *Vishwakarmas* who engage in different types of creative work in social life and demonstrates respect for skills in society. Our tradition has given special respect to various craftsmen like woodworkers, metal workers, scavengers, gardeners, potters, and weavers, who contribute to beautifying gardens, creating pottery, and weaving cloth by hand.

Therefore, it is also evident that our social and cultural traditions have enriched processes related to respecting and updating skills for the economic and social efficiency of people. Respecting the same the NEP–2020 has carried forward the tradition. The NEP–2020 has recognized the importance of developing 21st-century skills in learners, including cognitive, social, emotional, and digital skills. It has emphasized the need to promote a more experiential and multidisciplinary approach to education that goes beyond subject knowledge and includes training in pedagogical techniques, child psychology, and social and emotional learning. The policy also recommends the integration of Vocational Education and Training (VET) into mainstream education to provide learners with practical skills and knowledge that can help them succeed in the workforce. The policy recommends the establishment of a National Skills Qualifications Framework (NSQF) that will provide a common reference framework for all qualifications in India, including vocational qualifications. The policy also recommends the establishment of a National Research Foundation (NRF) to promote research and innovation in all areas of education, including skill development. The NRF will provide funding for research projects related to skill development and will also support

the development of new pedagogical approaches and teaching methods that can help learners develop the skills they need to succeed in the 21st century (Source: NEP-2020; Pages 5, 12, 13, 15, 36, 44, 47, 51).

It has been envisioned in NEP that, the curriculum should be designed in a manner that at the end of year-1, year-2, and year-3, students can meet the below-mentioned level descriptors for levels 5, 6, and 7 of NSQF, respectively which are shown in Table-1.

- **Professional Knowledge** is what a learner should know and understand concerning the subject.
- **Professional Skills** are what a learner should be able to do and,
- **Core Skills** refer to basic skills involving dexterity and the use of methods, materials, tools, and instruments used to perform the job including IT skills needed for that job.
- **The Responsibility Aspect** determines the (i) nature of the working relationship, (ii) level of responsibility for self and others, (iii) managing change, and (iv) accountability for actions.

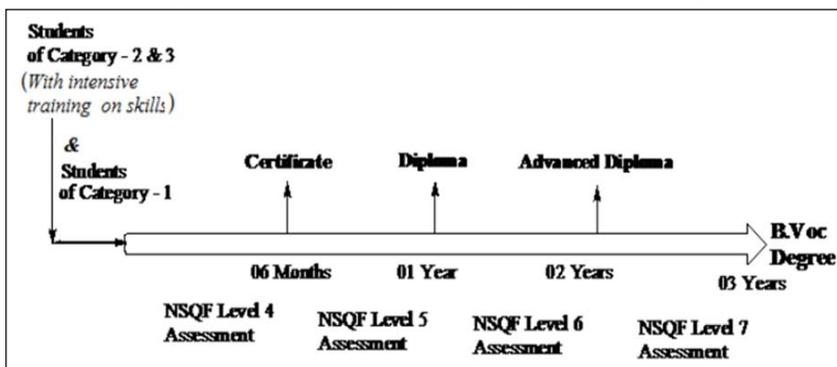
NEP–2020 Envisioned Skill Requirements and Its Alignment with Higher Education

The alignment between higher education and the skill requirements outlined in the National Education Policy–2020 is a critical aspect for ensuring the effectiveness and relevance of educational institutions in preparing students for the evolving job market. NEP–2020 emphasizes a holistic and multidisciplinary approach to education, aiming to develop not only subject-specific knowledge but also a broad set of skills and competencies essential

for success in various professional domains. The mentioned domains are as follows:

- **Holistic Development:** NEP 2020 promotes holistic development by recognizing the significance of cognitive, emotional, and physical aspects of learning. Higher education institutions align with this by incorporating diverse learning experiences, extracurricular activities, and wellness programs to nurture well-rounded individuals.
- **Interdisciplinary Learning:** NEP–2020 encourages interdisciplinary learning, breaking down traditional subject silos. Higher education institutions can align with this by offering interdisciplinary courses, collaborative projects, and research opportunities that transcend disciplinary boundaries.
- **Skill-based Education:** NEP–2020 emphasizes skill-based education, focusing on critical thinking, problem-solving, communication, and digital literacy. Higher education institutions align by integrating skill development modules into their curriculum, fostering practical application of knowledge.
- **Flexibility and Choice:** NEP 2020 advocates for flexibility and choice in curriculum design. Higher education institutions align by offering flexible course structures, multiple entry and exit points, and a diverse range of elective courses to cater to students’ varied interests and career goals.
- **Research and Innovation:** NEP 2020 encourages a culture of research and innovation. Higher education institutions align by promoting research-oriented teaching, establishing innovation hubs, and fostering an environment that stimulates curiosity and creativity.

Fig-1: Vertical Mobility and Multiple Entry-Exit Options



(Source:UGC_Guidelines-for-providing-Skill-Based-Education-under-NSQF; Page 8)

- **Focus on Vocational Education:** NEP 2020 recognizes the importance of vocational education and aims to integrate it into mainstream education. Higher education institutions align by offering vocational courses, internships, and industry collaborations to enhance practical skills and employability.
- **Internationalization:** NEP 2020 encourages internationalization of higher

education. Institutions align by fostering global collaborations, and exchange programmes, and providing students with exposure to diverse cultural and educational experiences.

Thus, we can say that higher education institutions align with the skill requirements outlined in NEP- 2020 by embracing a student-centric, flexible, and skill-oriented approach to curriculum design and delivery. By integrating these principles, institutions contribute to producing graduates who are not only academically proficient but also well-equipped to meet the demands of the rapidly changing workforce.

Some Other Recent Initiatives for Skill-Based Education in India

The Indian government launched the National Vocational Education Qualification Framework (NVEQF), which was later integrated into the National Skills Qualifications Framework (NSQF). It is a competency-based framework that organizes qualifications according to a series of knowledge, skills, and aptitudes. Various Sector Skill Councils (SSCs) are developing Qualification Packs (QPs), National Occupational Standards (NOSs - which are statements of the skills, knowledge, and understanding

needed for effective performance in a job role and are expressed as outcomes of competent performance) and assessment mechanisms in their respective domains, in alignment with the needs of the industry. UGC implemented the scheme of Community Colleges as one of its independent schemes from the year 2014-15 and later launched another scheme of B.Voc. Degree programme to expand the scope of vocational education and to provide vertical mobility to the students admitted into Community Colleges for Diploma programmes to a degree programme in the Universities and Colleges. After these two schemes, to further push vocational education on an even larger scale ‘Deen Dayal Upadhyay Centres for Knowledge Acquisition and up-gradation of Skilled Human Abilities and Livelihood (KAUSHAL)’ was also merged with them. Since all three of these provisions have the same goal, they are now combined into a single scheme to provide skill-based education under the National Qualifications Framework (UGC guidelines for providing skill-based education).

Future Work and Skill Requirements: Addressing the Gap

The landscape of work has undergone significant transformations in recent years, driven by rapid technological advancements, globalization,

Table-1: Curriculum Level Descriptors

| Level | Process required | Professional knowledge | Professional skill | Core skill | Responsibility |
|---------|---|---|--|---|---|
| Level 5 | Job that requires well developed skill, with clear choice of procedures in familiar context | Knowledge of facts, principles, processes and general concepts, in a field of work or study | A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools materials and information | Desired mathematical skill, understanding of social, political and some skill of collecting and organizing information, communication. | Responsibility for own work and learning and some responsibility for other's works and learning |
| Level 6 | Demands wide range of specialized technical skill, clarity of knowledge and practice in broad range of activity involving standard / non-standard practices | Factual and theoretical knowledge in broad contexts within a field of work or study | A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | Reasonably good in mathematical calculation, understanding of social, political and, reasonably good in data collecting organizing information, and logical communication | Responsibility for own work and learning and full responsibility for other's works and learning |
| Level 7 | Requires a command of wide ranging specialized theoretical and practical skill, involving variable routine and non-routine context | Wide ranging, factual and theoretical knowledge in broad contexts within a field of work or study | Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | Good logical and mathematical skill understanding of social political and natural environment good in collecting and organizing information, communication and presentation skill | Full responsibility for output of group and development |

(Source: UGC_Guidelines-for-providing-Skill-Based-Education-under-NSQF; Page 6)

Table-2: Some Identified Skills for Future Work and Their Development Strategies

| Sl. No. | Skills | Development Strategies in Higher Education |
|---------|--|---|
| 01 | Digital Literacy | <ul style="list-style-type: none"> • Integration of technology-infused courses into the curriculum and development of techno savvy skills. • Implementation of workshops and training programs on digital tools and platforms. • Collaboration with industry partners for real-world digital skill applications. |
| 02 | Critical Thinking | <ul style="list-style-type: none"> • Incorporation of case studies, problem-solving exercises, and critical analysis in courses. • Promotion of interdisciplinary projects to foster holistic problem-solving skills. • Encouragement of open-ended discussions and debates in the learning environment. |
| 03 | Communication Skills | <ul style="list-style-type: none"> • Integration of communication-focused coursework in various disciplines. • Use of presentation assignments, group projects, and public speaking opportunities. • Incorporation of soft skills development modules in the curriculum. • Multilingual skills through short duration courses |
| 04 | Adaptability and Flexibility | <ul style="list-style-type: none"> • Introduction of flexible learning schedules and online course options. • Integration of real-world scenarios in coursework to simulate dynamic work environments. • Encouragement of extracurricular activities and internships for diverse experiences. |
| 05 | Creativity and Innovation | <ul style="list-style-type: none"> • Inclusion of creativity-focused courses and workshops in arts, sciences, and technology. • Support for research projects that encourage innovative thinking and problem-solving. • Collaboration with industries and startups for real-world innovation challenges. |
| 06 | Emotional Intelligence | <ul style="list-style-type: none"> • Implementation of mindfulness and well-being programs for students. • Integration of empathy-focused coursework (social sciences and humanities enriched). • Training sessions and workshops on emotional intelligence and interpersonal skills. |
| 07 | Collaboration and Teamwork | <ul style="list-style-type: none"> • Group projects and team-based assignments across various disciplines. • Incorporation of collaborative tools and platforms for virtual teamwork experiences. • Industry partnerships and internships to expose students to collaborative work environments. |
| 08 | Lifelong Learning | <ul style="list-style-type: none"> • Introduction of courses on self-directed learning and continuous skill development. • Encouragement of participation in workshops, webinars, and conferences. • Integration of micro-credentialing and certification options for specific skills. |
| 09 | Global and Cultural Awareness | <ul style="list-style-type: none"> • Inclusion of globally-focused coursework and multicultural perspectives. • Study abroad programs and international exchange opportunities. • Collaboration with international institutions and organizations. |
| 10 | Problem-solving Skills | <ul style="list-style-type: none"> • Incorporation of case studies and real-world problem-solving challenges. • Project-based learning approaches to tackle complex issues. • Cross-disciplinary collaboration for comprehensive problem-solving skills. |
| 11 | Intra and inter disciplinary skills | <ul style="list-style-type: none"> • Intra-disciplinary, multi-disciplinary, trans-disciplinary interactions • Mobility across disciplines and Sharing of easy transfer of credits |
| 12 | Glocal Skills | <ul style="list-style-type: none"> • Extension services across cultures and develop skills to work in the local and the global community |
| 13 | Foundational skills based on Indian knowledge based systems (IKBS) | <ul style="list-style-type: none"> • Awareness and practice of Santana values through IKBS awareness and Panchkosha harmonization by integration of Yoga and extra- mural constant exposure |

and changing societal expectations. Emerging technologies such as artificial intelligence, automation, and big data analytics are reshaping industries, creating a demand for a new set of skills (World Economic Forum, 2020). The Fourth Industrial Revolution is characterized by a fusion of technologies that blur the lines between the physical, digital, and biological spheres, influencing the nature of jobs and skills required (Schwab, 2017). Moreover, the COVID-19 pandemic has accelerated remote work trends, emphasizing the importance of digital literacy, adaptability, and resilience in the workforce (McKinsey, 2020). As organizations embrace digital transformation, skills such as critical thinking, problem-solving, and creativity are becoming increasingly crucial (Burning Glass Technologies, 2019). The shift towards a more interconnected and knowledge-based economy necessitates a workforce capable of navigating complex and dynamic environments. To address these challenges, higher education institutions must adapt their curricula to align with the evolving skill requirements (National Academies, 2017). The integration of technology-infused courses, emphasis on interdisciplinary education, and a focus on soft skills development become imperative in preparing students for the changing world of work. It is also supported by the report of the India Skill Report 2023. According to the India Skill Report (2023), we will need essential knowledge and abilities in the different sectors from retail to manufacturing, healthcare, construction, insurance, energy sector, agriculture, IT sector, and so on. All these sectors will require professionals with digital literacy, data literacy, critical thinking, emotional intelligence, and creativity. All this also clearly reflects the future work requirements.

It is expected that the incorporation of NEP-2020 principles into Indian higher education practices will not only align higher education with future workforce requirements but also contribute to the broader national agenda of fostering a skilled, adaptable, and globally competitive workforce. Table 2 reflects the expected skills and the related strategies for inclusion and infusion in higher education as extracted from the above elaborations and as mentioned by Singh and Rai (2022, 2023), Singh and Senapati (2022), and Senapati and Singh (2023a,b) in their articles highlighting the key elements of transformative pedagogy and holistic

education which are basics of future work skill development in higher education.

Conclusion

Stakeholders of higher education across the globe are encountering problems related to mental health, well-being, no skilling, under-skilling, under-utilization of skilled manpower, unemployment, lack of critical thinking and self-realization to handle problems in society and the workplace, and so on. On the other hand, we can visualize that digital skills, skills of collaboration and teamwork, the skill of inter-disciplinarily, skill to work offline and online along with blended settings, community-focused fruitful extension -service provider skills in the field of health-agriculture-door to door services-InfoTech and entertainment, pedagogy to transform and get transformed to achieve the best for the self and community, etc. are required for successful goal achievement at future workplaces. Therefore, future work-related skills as highlighted above have to be developed by practitioners in higher education institutions. All this requires holistic skilling and transformative education.

Accordingly, the National Education Policy-2020 has rightly emphasized the need for skill development and a holistic approach to education to prepare students for the rapidly changing life in society and the job market as well. The focused principles include IKBS-based life skills, critical thinking, problem-solving, communication, digital literacy, creativity, and adaptability through interdisciplinary courses, collaborative projects, and research opportunities for the workforce in higher education. It can be done through the utilization of the hidden indigenous skill potential and developing linkages with the path breakers locally and globally. All this requires a strong will to execute things in HEIs accepting the broader national agenda of fostering a skilled, adaptable, peaceful, and globally competitive workforce.

References

1. Burning Glass Technologies (2019). The New Foundational Skills of the Digital Economy. Retrieved from https://www.burning-glass.com/wp-content/uploads/New_Foundational_Skills.pdf
2. Business Today (2019, March 25). 80% of Indian Engineers not fit for Jobs, Says Survey. Retrieved December 3, 2023,

- from <https://www.businesstoday.in/latest/corporate/story/indian-engineers-tech-jobs-survey-80-per-cent-of-indian-engineers-not-fit-for-jobs-says-survey-181442-2019-03-25>
3. Government of India (2020). National Education Policy-2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
 4. ILO Director General Presentation on Global Employment Trends 20-21 July, 2023, Indore at G20 Labour and Employment Ministers' Meeting. <https://www.ilo.org/global/about-th> retrieved on 2 December. 2023
 5. India Skill Report 2023: Roadmap to India's Skill and Talent Economy 2030. (n.d.). Weebox. Retrieved on December 3, 2023, from <https://wheebox.com/india-skills-report.htm>
 6. McKinsey and Company. (2020) What's Next for Remote Work: An Analysis of 2,000 Tasks, 800 Jobs, and Nine Countries. Retrieved from <https://www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries#/auth-print>
 7. National Academies (2017). Building America's Skilled Technical Workforce. Retrieved from <https://nap.nationalacademies.org/catalog/23472/building-americas-skilled-technical-workforce>
 8. PIB Delhi. (2021, July 15). English Rendering of PM's address on World Youth Skills Day. Press Information Bureau. Retrieved on December 3, 2023, from <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1735754>
 9. Schwab, K. (2016). The Fourth Industrial Revolution. World Economic Forum. Switzerland. https://law.unimelb.edu.au/__data/assets/pdf_file/0005/3385454/Schwab-The_Fourth_Industrial_Revolution_Klaus_S.pdf
 10. Singh, S., K. and Rai, P., V., K (2022). Teaching Skills and Methods used in Education: A Systematic Review of Practices, *University News: A Weekly Journal of Higher Education*, 60:42, New Delhi, Association of Indian Universities, Pp.5-15, ISSN 0566-2257.
 11. Singh, S., K. and Senapati, R. (2022). Transformative Pedagogy and its Infusion Across Disciplines in Higher Education: A Review, *University News: A Weekly Journal of Higher Education*, 60:50, New Delhi, Association of Indian Universities, Pp.19-25, ISSN 0566-2257.
 12. Senapati, R. and Singh, S.,K (2023a). Holistic Higher Education through Multidisciplinary Transformative Curriculum : A Roadmap for Implementing National Education Policy -2020, *University News: A Weekly Journal of Higher Education*, 61:03, New Delhi, Association of Indian Universities, Pp.26-32, ISSN 0566-2257
 13. Senapati, R. and Singh, S., K (2023b). National Education Policy -2020 and Evaluation reforms in Higher education: envisioning Transformation for 21st century India. *University News: A Weekly Journal of Higher Education*, 61:08, New Delhi, Association of Indian Universities, Pp.21-26, ISSN 0566-2257
 14. Singh, S., K. and Rai, P., V.,K (2023). Need of Pedagogical Training of Teachers in Higher Education Institutions: A Systematic Review, *University News: A Weekly Journal of Higher Education*, 61:37 Sept. , Pp 1-14 New Delhi, Association of Indian Universities, ISSN 0566-2257
 15. The Guardian, 12 April 2016 the www.guardian.com retrieved on 2 December, 2023
 16. UGC_Guidelines-for-providing-Skill-Based-Education-under-NSQF; https://www.ugc.gov.in/pdfnews/6556003_Guidelines-for-providing-Skill-Based-Education-under-NSQF.pdf
 17. W.H.O. (1997). Curriculum and Guidelines for Life Skills (Jeevan Kaushal) 2.0 https://www.ugc.gov.in/pdfnews/4371304_LifeSKill_JeevanKaushal_2023.pdf
 18. WHO 28 September, 2022. <https://www.who.int/news-room/fa> retrieved on 2 December 2023)
 19. World Economic Forum. (2020). The Future of Jobs Report 2020. https://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf □

Aspirational Education System of India for Ushering Us to New India of 2047

Om Vikas*

After Independence in August 1947, the need for change in the Education system was felt. Salient efforts were made to evolve a National Educational Policy. First, the Radhakrishnan Commission (1948-49) was appointed for Indian University Education to suggest improvements to suit to present and future requirements of the country. Recommendations for higher education included - teaching philosophy of religion, meditation, regional language as a medium of instruction, and setting up new universities, and autonomous institutions to produce teachers, doctors, engineers, technicians, and researchers.

The National Policy on Education—1968 (NPE-1968) recommended radical structuring and advised the adoption of the three-language formula and teaching Sanskrit in secondary education. It was in 1985 when the Ministry of Education was renamed as Ministry of Human Resource Development. National Policy on Education—1986 (NPE-1986) had special emphasis on the removal of disparities and recommended equalizing education opportunities. NPE-1992 proposed a common test for professional and technical education programmes. After the policy of 1986/92, a major development has been the Right of Children Education to Free and Compulsory Education Act 2006 aiming to achieve universal elementary education.

National Knowledge Commission (2005-2008) prepared a report with 5 key areas – Access, Concepts, Creation, Applications, and Services- to build a knowledge society. Education included – School Education, Higher Education, Professional Education, Quality PhDs, Distance Education, etc. Introduction of English even from class 1 in school was also recommended with a focus on human resources necessary for industrialisation and global competitiveness.

A committee on NEP (National Education Policy) was constituted under the chairmanship

* Chief Editor, *Vigyan Prakash Journal*, and Hon. Advisor, *Bharatiya Vidya Bhavan, Delhi Kendra*. E-mail: dr.omvikas@gmail.com

of Padma Vibhushan Dr. Kasturirangan, former chairman of ISRO. National Education Policy—2020 (NEP—2020) is aligned with aspirational goals of 21st-century education, including Sustainable Development Goals SDG--4 for building upon India’s traditions and value systems. The vision of the policy is to instill among learners pride in being Indian and to attain high-quality knowledge and skills to provide solutions to rapidly changing climate, and socio-economic man-machine perception. Fundamental principles are holistic education, synergy in flexible curricula, emphasis on critical thinking and creativity, multilingualism, and pride in Indian ethos. NEP—2020 gives the broad architecture of the Education System. Implementation details need to be worked out collectively. The report is presented in four parts.

Part 1: School Education K-12

School Education is a major transformational recommendation that intrinsically combines education and health to build up the foundation for the pursuit of knowledge. The proposed academic structure is 5+3+3+4 years which means school education becomes 15 years rather than 12 years including the Kindergarten.

| | | | | | |
|----------------|---------------|---------------|----------------|-----------------|-----------------|
| Age (duration) | 3-6 years (3) | 6-8 years (2) | 8-11 years (3) | 11-14 years (3) | 14-18 years (4) |
| Class | Nursery & KG | Class 1 & 2 | Class 3-5 | Class 6-8 | Class 9-12 |
| Category | Foundational | | Preparatory | Mid-dle | Secondary |

Currently, Nursery and KG education is in private schools and not accessible to poor people. In the proposed scheme Government will support this early foundation education through *Anganwadis*. This is with the presumption that 85% of brain development is up to the age of 6 years. Hygienic and social behavioral aspects may be learnt through the recitation of poems, listening to stories, basic concepts, and reading-writing skills in the mother tongue. Writing and speaking practices and exposure

to nature may be introduced at the Preparatory level. Principles of learning at an early stage include:

- Skill precedes knowledge (learning by exploring/doing)
- Teach wisdom before knowledge (emphasis be on recitation, then scripting and meaning)

At the middle and secondary levels, the curricula need to be revamped to make it holistic by integrating Indian knowledge tradition, Indian ethos, and Indian languages. Music, dance, drama, and fine arts may be introduced. Curricula may have one Indian language at the literature level and medium for other subjects, and any other Indian Language. It is desirable to introduce standard Sanskrit and a basic introduction to other classical languages. Sanskrit is the mother of Indian Languages with the same alphabetic sequence, 50% - 80% Sanskrit words being used in various Indian Languages, ICT-enabled Sanskrit studies need to be encouraged using Devnagari / Indian script printed INSCRIPT keyboard. Pedagogical initiatives may focus on developing computational (logical) and design thinking. Bagless periods of 2 weeks may introduce holistic health, the art of living, global citizenship, environmental education, and heritage culture.

There may be implementation issues by state governments. Performance ranking at the state level may create a positive competitive environment. SCERTs may develop curricula for Foundation and preparatory levels based on NCERT curricula.

There is a disconnect between skill-predominant (vocational) ITI and NCERT-prepared academic curricula. There must be efforts to integrate ITIs, vocational and secondary academic education, rather than introducing a separate stream of vocational education. NEP--2020 is silent on this issue.

Textbook preparation is done by NCERT. It is suggested that the original text must be prepared in Hindi and then translated into English and other Indian languages, especially humanities subjects.

Post-COVID-19, education would require blended learning and teaching in online and in-class mode. Formative and summative tests need to be conducted. PARAKH - a National Assessment body is

being proposed to be set up. National Testing Agency will be conducting university entrance examinations. The challenge remains in testing creative writing and behavioural skills. Teachers Training and periodic reorientation are important. Professional standards for teachers need to be defined and adhered to BEd of 4 years is recommended.

In order to become a developed nation, it is necessary to redefine equitability based on economic status. Policy must be to raise the poor, and low-performing schools with the help of mentor schools. Atal Innovation Labs under the Atal Innovation Mission of NITI Aayog have been set up in over 9,000 schools to encourage secondary school students to tinker and explore emerging technologies (3D printing, Robotics, IoT, Sensors, AI tools, Rapid Prototyping, measuring tools, safety equipment, etc.), and develop innovation skills like design thinking, computational thinking, ideation to innovation to incubation. Set up a centre for Essential Skills – life and communication skills, innovation projects promotion cell, etc.

Integrating Academic, Vocational and Technical Skill Development

There is a need to address the issue of disjoint academic, vocational, and technician skill development. India has 15,700 ITIs. There are polytechnics and ATIs. Out of 300,000 sets of apprentices, utilization is 30%-40%. 3 National Institutes of Skills are proposed to be set up. Vocational Education & Training (VET) for Industry 4.0 envisages a digital workplace, radical modification in business models, advanced robotics, and industrial IoT. Education plus work increases employability. The current scenario of the workforce (19-24 years) in India gets VET 5%, whereas in the USA 52%, in Germany 75%, and in South Korea 96%. NEP—2020 targets to raise it to 50% by 2025.

The challenge is in overcoming the social stigma associated with Vocational Education. As we are adopting a flexible holistic education framework as per NEP—2020, *we must have only one education stream with varied options of courses.* Some courses may be theory-predominant, and some skill-predominant. *The country needs a well-grounded practicing workforce. The marking system must be replaced by the grade system.*

Part II—Higher Education

We discussed school education in detail because this is the foundation over which the quality of higher education may be assured. Higher Education states the Vision of Higher Education as *access, equity, and inclusion*. NEP—2020 recommends quality universities and colleges, multi-disciplinary universities, and clusters of HE institutes. A few HE institutes may teach in local languages. GER is targeted from 26.3% (2018) to 50% (2035). Blended learning will be encouraged. *Assessment will be for Knowledge (concepts and interconnectedness), Process (problem-solving, problem-finding), and Behavioural (design thinking, creative arts, communication) skills. Country needs the well-grounded practitioners.*

UG degree recommends the award of a certificate after 1 year, a diploma after 2 years, a degree after 3 years, and a degree with research after 4 years. Award of a degree after 3 years will not be appropriate for professional education; advanced diploma may be awarded rather than a degree. 5 year integrated master's programme, as in vogue, is also recommended. It is to be noted that there has been a reduction in the period of professional degree programme from 5 to 4 years since 1981 reducing the humanities courses. The craze for MBA increased to get employment in the industry. For technical education, the degree programme must not be further reduced. It must remain of 4 years duration. Engineering discipline must learn from medical science programme that focuses on skill and multi-disciplinary dialogue. Credit requirement reduced from 200 to 160. There are suggested non-credit courses and activities. There may be due provision for an “earn while you learn” scheme to help students from low-income families.

Teacher education is important given rapidly advancing technologies and multi-disciplinary course. An effective Technology-enabled teaching-learning environment needs to be created. Teacher Education may include curriculum design, effective pedagogy and assessment methods, and innovation management, facilitating connection with the Indian Knowledge system.

NRF (National Research Foundation) is envisaged to be a vibrant Research and Innovation support. Investment in research and innovation of

GDP indicates the level of advancement as follows: Israel (4.3%), South Korea (4.2%), USA (2.8%), and India (0.69%). NRF should not disconnect with other funding agencies in the Government. It is necessary to avoid duplicate funding, to steer focused research, and to ensure reasonable (Lab to User) return on investment. There needs to be a Research Audit of projects under broad areas. *It is often seen that the projects consume funds, and publish papers, and nothing or very little reaches to intended users, and no user feedback for further improvisation. Young faculty faces problems in getting project grants to sharpen his / her career goals. NRF may consider these issues.*

Inter-disciplinary projects with industry tie-ups may be encouraged. Experimental resources may vary. The cluster of institutions may be funded for the optimal utilisation of intellectual and laboratory resources. Programmes such as Bio-Design may be introduced in collaboration with Medical Science Institutions. There may be an explicit policy on publishing research papers, patents, designs, and standards. In professional disciplines research publication in Hindi / Indian language in a UGC_CARE-approved research journal may be desirable up to 20% with due credit. In the case of liberal arts and humanities, drastic steps need to be taken to improve the quality of research and avoid plagiarism. Indian languages may move closer to harmony if grammar and literary aspects of Sanskrit are introduced at the graduate level in all disciplines.

There is a lot of learning from the Medical Science Education system. There was no cut in the period of the Medical Science Programme even when the USA reduced years of Engineering Education from 5 years to 4 years.

Teacher: Losing Shine

About half a century ago, a teacher was a role model. Some brilliant students preferred to become scientists, engineers, and teachers. Vice chancellors were eminent scholars and worthy of respect from every stratum of society. 5th pay commission chaired by Shri M K Kaw, IAS brought change and recommended a higher grade to Secretary to Government of India than that of Vice-Chancellor. Administrative positions became a preference. The ancient concept of *Gurushishya* is losing shine.

Albert Einstein opines about teachers: “It is the supreme art of the teacher to awaken joy in creative expression and knowledge”. Swami Vivekananda opined, “No one was ever really taught by another; each of us has to teach himself. The external teacher offers only the suggestion which rouses the internal teacher to work to understand things . . . He alone teaches who has something to give, for teaching is not talking, teaching is not imparting doctrines, it is communicating”. Pandit Madan Mohan Malaviya founded BHU for good quality of education. He invited teachers who had a passion for teaching and research. In his memory, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching was launched on 25 December 2014 encompassing all programmes and at all levels of teacher education.

Until recently, the teacher was treated as a resource to be employed for profit. MHRD (Ministry of Human Resource Development) treated institutions to produce human resources in large numbers with minimal investment. HR (teacher) produces HR (Graduates). Student-teacher ratio keeps increasing on the pretext of adopting technology-enabled teaching-learning methods. MOOCs emerge as substitutes to some extent.

Now, a teacher is supposed to act as a facilitator-learning assistant. The focus is on knowledge transfer, and not on thinking processes, cultural values, and ethical behavior. A teacher is assessed based on students’ feedback. Clever teachers become lenient in marking, so they get better student feedback. A good teacher with caring cognitive and behavioral skills may lose in both students’ feedback as well as R&D and consultancy.

The integrated vision of Education is based on

four pillars of Learning – to know, to do, to be, and to live together (Delores Report, 1996) [8]. Lifelong learning is important for the sustenance of excellence. In Engineering Education about twelve graduate abilities are expected to be attained by an engineering graduate. These may include Mastery of subject-specific knowledge, Problem analysis, Design and development of Solutions, Investigation of Complex Problems, Modern tool usage, Engineer and society, Environment and sustainability, Ethical values, Individual and teamwork, Communication skills, Lifelong learning, Project management and finance, and possibly some more.

Accreditation of an Engineering programme is necessary. NBA Accreditation hasten criteria. Teachers’ Quality is ascertained based on degrees earned, and publication in high-impact factor journals. *However, there are no parameters for effective teaching.* There is a mushrooming of paid journals by colleges. These have ISSN numbers with the title International Journal. There is a rumor that private institutions *manage* accreditation even with low numbers and low quality of teachers. Some teachers used to appear for accreditation purposes in different institutions at all levels. There are cases of disqualifications just on the basis of low admissions even during corona pandemic, where in other parameters marks were above 95%. Such atrocious accreditation raises doubt about the accreditation process. About 80% of students are admitted to private institutions.

Raising Innovation Aptitude

Innovation is a key indicator of the growth of the economy. It may be appropriate to see where India stands vis-à-vis other nations. Global Innovation Index (GII) Report-2018 is given in Table 1.

Table-1: Global Innovation Index (GII) Report-2018

| Country | GII Rank | GII Score (%) | Innovation Input Rank | Innovation Input Score (%) | Innovation Output Rank | Innovation Output Score (%) | Innovation Efficiency Ratio |
|-------------|----------|---------------|-----------------------|----------------------------|------------------------|-----------------------------|-----------------------------|
| Switzerland | 1 | 68.40 | 2 | 69.67 | 1 | 67.13 | 0.96 |
| Netherlands | 2 | 63.32 | 5 | 68.10 | 2 | 60.19 | 0.91 |
| Sweden | 3 | 63.08 | 3 | 69.21 | 3 | 56.98 | 0.82 |
| UK | 4 | 60.10 | 4 | 67.9 | 6 | 52.3 | 0.77 |
| Singapore | 5 | 59.63 | 1 | 74.23 | 15 | 45.43 | 0.61 |
| USA | 6 | 59.39 | 6 | 67.81 | 7 | 51.81 | 0.76 |
| China | 17 | 53.06 | 27 | 55.13 | 10 | 50.98 | 0.92 |
| India | 57 | 35.18 | 63 | 42.23 | 57 | 27.83 | 0.65 |

$$GII = \frac{1}{2} (\text{Innovation Output Score} + \text{Innovation Input Score})$$

Innovation Efficiency Ratio = Innovation Output / Innovation Input

INSTEAD, Cornell University and WIPO are jointly bringing out the Global Innovation Index (GII) report since 2007. The 2017-18 GII report details Innovation input and output, and innovation efficiency for 126 countries. The above table gives comparative data for India and a few others. Innovation input is based on five parameters: (1) Institutions, (2) Human Capital and Resources, (3) Financial resources and infrastructure, (4) Market Sophistication, and (5) Business Sophistication. Innovation output is computed based on two parameters: (i) Knowledge and Technology Outcome, and (ii) Creative Technology Outputs.

In 2018, India's GII was 57 whereas neighbor China's GII was 17, that is China is ahead in the innovation competition. In the case of the Innovation Efficiency Ratio which is an indicator of innovation contribution per scientist/engineer, India's IER (Innovation Efficiency Ratio) is 0.65 whereas China's is 0.92. Many nations have an IER above 0.90. India is much behind countries like South Korea, Japan, France, and Germany, where technical education and research are in their languages and not English. *Our assumption of English knowing a large population may not fit well in this case. The teacher is responsible for the outcome at the institute level which sums up at the national level.*

Teacher Upgradation

Globalization opened windows to trade and avenues for talent flow. There is an increasing need for well-grounded competent engineers/professionals. In India, the number of institutions increased, but only a few graduates are employable in industry. There is a paucity of good teachers. We propose some programmes for improving the quality of teachers and in turn the quality of technical education.

Two strategies are proposed.

(i) Quality Up-gradation in Engineering Education Network (QUEEN)

To reach out to the teachers to empower them with the introduction of innovative conducive teaching methods and the latest technology gadgets through a consortium of universities / R&D centers and the consortium of industries for internship opportunities.

(ii) Conducting Two Summer Engineering Education Courses

A tentative curriculum may include topics such as program Innovation-Centric Teaching-Learning and evaluation Methods, Technology-enhanced Education, Basic Science Concepts, Systems Engineering, Quality Assessment and accreditation, Engineering Research Methodology, Educational Administration & Management, Entrepreneurship & Innovation Management. The method of assessing innovation is also discussed with innovation radar.

Quality Up-gradation in Engineering Education Network (QUEEN)

In India, the number of institutions increased, but only a few graduates are employable in industry, about 15-20 percent. There is a paucity of good professional teachers. Periodic upgradation of teachers is essential. QUEEN (Quality Up-gradation in Engineering Education Network) is proposed with a focus on teachers training with their active involvement.

A consortium of universities may form QUEEN to take up the challenge of improving the quality of engineering education in the neighboring institutions. Prospective beneficiary institutions are identified as part of the network for continuous interaction and quality assessment. A consortium of neighboring institutions may be termed *Sahodaya* सहोदय = सह उदय *which* means to help each other to rise.

QUEEN-1 Programme aims at improving the quality of ITI technician-level instructors. Industry may be persuaded to participate in this endeavor under their Corporate Social Responsibility.[4] This will create an environment of co-creation, competition, cooperation, and collaboration. The Skill Development Corporation and Directorate of Employment and Training may also consider supporting and promoting such a program. The impact of QUEEN-1 will be on raising the quality of skills, evolving skills standards, and facilitating the mobility of ITI pass-outs to higher studies in engineering disciplines, as supported by NVEQF (National Vocational Education Framework) [3, 8].

QUEEN-2 Programme aims at improving the quality of teachers in the mushrooming colleges/institutions at the polytechnic and degree level.

QUEEN-2 will take higher-level experts and researchers to interact with teachers of these institutions on issues of teaching methodologies, evaluation methods, systems thinking, collaborative learning, integrating skills, and exploring future technologies. Experts may co-guide interdisciplinary projects - formulation, modularization, and integration into solutions with QoS (Quality of Service). QUEEN-2 is a major challenge that would solicit wider participation of industry, professional societies, and premiere R & D labs. [5, 6, 7]

Revisiting the Engineering Education Programme

Currently, fresh graduates start teaching graduates. Even PhDs do not have exposure to Pedagogy and teaching methods. Most private colleges resort to hiring fresh graduates on contract with a nominal salary. They don't have any teaching ability and lack sound knowledge of the discipline. Terminology remains a bundle of jargon. The semantic aspect is not clear. The use of open technologies/standards is not encouraged. Teaching-learning processes are not innovation-centric.

UGC Policies

There is a fallacy in *UGC's decision about the induction of Assistant Professors without research experience may lead to rote learners*, and may lead to mushrooming growth of coaching centres. There are three types of faculties – (1) Teachers as in most of the teaching predominant institutions. (2) research faculty, and (3) skill-predominant practice faculty. *UGC needs to reconsider the policy on teacher employment as Assistant Professors in private colleges.*

There are three types of professors in good universities in Advanced nations – Professor (Research), Professor (Teaching), and Professor (Practice). We need to distinguish them based on their aptitude and contributions. Accordingly, the assessment of academic performance API may be done. NBA and NAAC should also consider it.

Learning from the Medical Council

In 1981, the duration of BTech / BS education programme in the USA was reduced from 5 years to 4 years. India followed it reducing the duration of the BTech program from 5 years to 4 years. Curricula had a heavy cut on humanities courses. For employment in the industry, management programmes became essential. Another trend we

see is that many engineering graduates from various branches shifted to IT services. Consequently, the core engineering sectors remain deprived of talented engineering graduates. On the other hand, the medical council focused on practical skills and kept the MBBS programme for 5½ years.

It would be advisable that such policy decisions regarding academic courses are taken in consultation or on the recommendation of the joint advisory committee consisting of experts from science, engineering, technology, management, modern medical sciences, Ayush, CSTT (Commission for Scientific & Technical Terminology).

Engineering Education in the 21st Century

New strategies need to be adopted. The focus should be on a balanced mix of knowledge and practice, innovation and entrepreneurship. Curricula would be industry-driven, outcome-centric, and clinically relevant including case practices, problem-solving, and systems integration. An open engineering clinic for Micro-Small-Medium Enterprises would be desirable to be organized. A new program of "Engineering Education" needs to be launched to prepare the right kind of competent faculty. Faculty would be rewarded in both categories – Disciplinary-based research faculty and Clinical faculty. NITTR may consider such programmes. NEP---2020 may necessitate empowering teachers to effectively handle integrated / holistic education. There is now ITEP (Integrated Teacher Education Program).

In the Technical Teachers Training programme, topics may include Psychological and Philosophical Aspects of Education, Innovation-Centric Teaching-Learning and Evaluation Methods, Fundamentals of Systems Engineering, Science of Language and Professional Communication, Ethics in Engineering Practices, Entrepreneurship, and Innovation Management. Educational Administration and Management, and Projects on topics like Outcome-based Analysis of Engineering Education.

This may be completed during summer vacations of 2½ months. "Engineering Research Methodology" (ERM) is different from conventional Research Methodology in that it mainly contains statistics and data analysis techniques. ERM is akin to the recent concept of Design Science Research that defines patterns of steps to carry out systematic research [4, 6]. PhD program in Engineering Education may also be initiated.

Assessing Innovation

We need to promote and assess quality along with the relevance of the educational programme to society. Global relevance shallows the local relevance. Assessment criteria may include indicators such as an annual increase in per capita income, annual progression of local technology-based entrepreneurship, and annual improvement in education, health, hygiene, and well-being of neighboring communities.

There is a growing focus on research. This is normally judged in terms of research publications. Publication in refereed journals is given higher weight. The impact factor of the journal and the citation index are often enquired. Many journals accept and publish papers upon payment. In the web era, the distinction between national and international conferences is meaningless. Peer reviews of papers at conferences are often casual. Publication in high-impact factor refereed journals is time-consuming. There is a need to debate this issue. Consideration is invited to promote entrepreneurship – ideas to product and to promote collaborative research projects.

The government should promote national research journals by professional societies that get mentioned in the accreditation report as one of the outcomes of the funded projects in terms of publication in national research journals. To promote Indian Languages, about 20% of research papers may be in Hindi or other Indian Languages published in UGC-CARE peer-reviewed research journals.

Technological innovation would be in the form of new knowledge or practices that yield socio-economic benefits. There is a diverse and heterogeneous technology environment with cross-functional, cross-disciplinary, and cross-cultural players. Collaborative innovation with extensive

use of web-based technologies will promote group innovation, and failure to succeed aptitude.

We may understand the correlation among terms relating to innovation and research as follows. The fundamental component is a ‘new ‘idea’. *Creativity* involves new ideas/concepts. *Invention* is constructing something new out-of-the-box. *Innovation* is the successful implementation of creative ideas that have an impact on the economy and society. Innovation may be linked to improvements in efficiency, productivity, quality, competitive positioning, etc. Entrepreneurship is the capacity to create value to convert ‘material’ into ‘resources’; an Entrepreneur creates a new business/service. The entrepreneurial spirit is characterized by innovation and risk-taking. *Research* is an activity that contributes to the creation of new knowledge that is true and interesting.

Emerging Strategies in Engineering Education

To understand the Innovation processes in an organization, a new framework “Innovation Radar” is proposed that consists of four key dimensions with two sub-dimensions associated with each key dimension:

1. Offerings: Product/Services (What),
Platform
Solution
2. Users it Serves (Who),
Stakeholders’ feedback
Value capture
3. Processes it Employs (How)
Organization
Value chain
4. Point of Presence (Where)
Networking
Brand

Table-2: Practice Engineering Education: A Paradigm Shift

| Variables | Traditional Practices | Emerging Strategies |
|-----------------------|---------------------------------------|--|
| 1. Philosophic Theme: | | |
| 1.1. Domain | As for other University studies/units | • Applied professional school |
| 1.2. Concept- focus | Inventions newness in concept | • Innovation – newness in use or application |
| 1.3. Major focus | • Knowledge • No skill orientation | • Knowledge and practice |
| 1.4. Research focus | • On technological discoveries | • On technological entrepreneurship for exploiting scientific findings |
| 1.5. Purpose or goal | • Creating knowledge | • Creating and commercializing knowledge |

Table cond. in next page

Table cond. from previous page

| Variables | Traditional Practices | Emerging Strategies |
|---|---|---|
| 1.6. Strategic orientation or outcome | • Problem solving | • Problem-finding |
| 1.7. Future Target | • Next generation S&T | • Disruptive innovation or technological discontinuities |
| 1.8. Organizational Structure | • Disciplined, hierarchical, limited institutional collaborations | • Loosely hierarchical, more autonomy and better intra/inter institutional collaboration |
| 2. Curriculum Orientation: | | |
| 2.9. Dominant feature | • Normative (what to be) | • Positive (What is) |
| 2.10. Core driver | • Discipline and Product Driven (technology push) | • Market-pull (output centric) |
| 2.11. Mode of operation | • Imparting knowledge | • Deriving knowledge from practical/case-practices |
| 2.12. Theory versus Practice | • Growing divergence | • Maintaining balance |
| 2.13. Evaluation | • Fragmented concept based definitional questions • Testing weakness | • Situational problem solving |
| 3. Diagnostic Assessment: | | |
| 3.14. Widening gap between Science and Engineering | • Overemphasis on analytical tools. • Practitioners contribute less to development of discipline. | • Theory and practice must be intertwined • For a professional discipline to mature both theorists and practitioners must contribute |
| 3.15. Engineering education has little social relevance | • Professional theory based curriculum. • Curriculum is technology -centric. | • A clinically relevant curriculum is needed • Curriculum must have balanced coverage of human, organization and technological aspects |
| 3.16. Providing students with wrong skills | • Over develops analytical skills – but not system integration, maintenance and interpersonal skills. • Academic program is like teaching swimming without water. • Students’ diagnostic skills remain highly under developed because data and problems are given to them – not found by them. | • Students should be taught how to use these tools in practice • Design tool courses be problems-oriented, not techniques- oriented • Problem-finding skills are far more important than problem solving skills |
| 3.17. Faculty learning process | • Learning by modelling • Instruction is faculty oriented as student plays a very passive role in the learning process. | • Learning by discovery (through both deduction and induction) • Student must have a choice about what to learn, how, when, and where? |
| 3.18. Preparation of faculty | • Many teachers are teaching in a field for which they were not trained. • Sink-or swim teaching. • No firsthand experience in engineering practices /industry. • Academics and Practitioners are members of two different breeds. • Engineering faculty has no exposure to teaching methodologies. | • Issues need to be candidly corrected • A new program of Engineering Education need be launched and it may become pre-requisite for teaching professional courses |

| Variables | Traditional Practices | Emerging Strategies |
|---|---|--|
| 3.19. Inadequate reward System | <ul style="list-style-type: none"> Academic reward for publishing esoteric and irrelevant research findings. Abundance of uselessness Professors are hired as teachers, but evaluated as researchers. Outmoded faculty hiring practices | <ul style="list-style-type: none"> By rewarding mediocrity, we discourage excellence Lack of usefulness and relevance Consider adopting the medical model: Two professional ladders – discipline- based versus clinical faculty |
| 3.20. Inadequate interaction with industry | <ul style="list-style-type: none"> Industrial training is of short duration and of ceremonial nature Emphasis on standards, testing and quality assurance is minimal. Technology diffusion to industry is very low. | <ul style="list-style-type: none"> Longer duration industrial training with active participation of industry personnel's in solving real life complex problems with proper documentation Standards and quality Management must be covered with case Practice/ studies Consider to periodically organize open engineering Clinic for Micro, Small and Medium Enterprises |
| 4. Intellectual Capital and Technological Innovation: | | |
| 4.21. Major form of Capital | <ul style="list-style-type: none"> Physical resources | <ul style="list-style-type: none"> Knowledge |
| 4.22. Operational focus | <ul style="list-style-type: none"> Traditional corporate Industry functions | <ul style="list-style-type: none"> Knowledge management |
| 4.23. Source of competitive advantage | <ul style="list-style-type: none"> Research and Technology Development | <ul style="list-style-type: none"> Intellectual capital |
| 4.24. Technical population | <ul style="list-style-type: none"> Highly Homogeneous | <ul style="list-style-type: none"> Highly diverse and heterogeneous |
| 4.25. Organizational career | <ul style="list-style-type: none"> Long tenure with Stable careers | <ul style="list-style-type: none"> Shorter, portable careers with no binding ties |
| 4.26. Major Players | <ul style="list-style-type: none"> Individual technologies | <ul style="list-style-type: none"> Technology project team: Cross-functional, cross -disciplinary and cross -cultural |
| 4.27. Mode of R&D, Knowledge Exchange and communication | <ul style="list-style-type: none"> Professional conferences and Library based projects. | <ul style="list-style-type: none"> Internet, Search engines and web-based database access and collaboration knowledge |
| 4.28. Mode of teaching and research operation | <ul style="list-style-type: none"> Individuals create | <ul style="list-style-type: none"> Teams or group innovate |
| 4.29. Aptitude towards failure | <ul style="list-style-type: none"> Mistakes are discouraged at all cost. | <ul style="list-style-type: none"> Failure is the discipline through which we advance Fail often to succeed sooner |

Multi-dimensional Innovation radar is shown below. Performance may be evaluated on 5-point Likert scale on each dimension. Performance along these dimensions will indicate perceived strengths and weaknesses in respective dimensions. This may help in assessment of innovation contribution and entrepreneurial ability in practice-predominant engineering education.

Integrated / Holistic Technical Education

Holistic education must connect to traditional knowledge, and cultural values, and develop innovation aptitude to stand with excellence in modern science and technology also. This may combine physical, spiritual, and competitive abilities. Curricula for holistic technical education need to be designed and implemented accordingly with a focus on the *science*

of language, Indian heritage, performing and visual arts, and transcreation (Linguistic cross-creation: Localization / Internationalization).

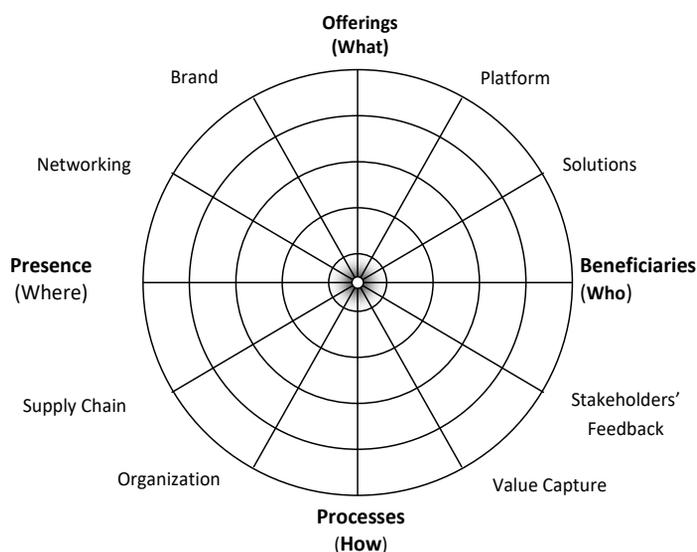
This is a challenging task given the limited time of 4 years, and additional courses to introduce multi-disciplinary practical exposure. Moreover, there is a paucity of expert teachers. This calls for blended teaching-learning. Get knowledge from the best resources on web and develop skills from best institutions. Attain employable abilities during internship in industry. There is a need to have collaboration between consortium of universities and the consortium of industries. Credit courses on biosciences and liberal arts may be done at accredited institutions and get certification with grade.

Flexible entry and exit policy may help in developing desired knowledge, skill and aptitude. Of course, the limit of 4 years duration may exceed.

Another important skill one may attain is the ability of transcreation. Lot of work has been done in Machine Translation from English to Indian languages (ILs) and also between ILs within the country and by MNCs like Google and Microsoft. Curriculum guidelines for a course on technical translation have been prepared and published in the UGC-CARE listed research journal Vigyan Prakash, October-December 2022, Vol.20, No. 4 (www.vigyanprakash.in).

Course on Technical Translation and Transcreation is designed to come out from dilemma

Figure 1: Multi-dimensional Innovation Radar



of English language for the large non-English population of India. Direct interaction in the language of society with educated youths with knowledge and skills opens avenues for entrepreneurship and effective solutions to societal and economic problems. Design of the curriculum is for 3 credits for about 50 hours.

The curriculum includes the Principles of Translation; Contrastive (SL-TL) Language Analysis: English & Hindi; Language Technology; Translation: Issues, Constraints and Evaluation; MT and practice on Transcreation workbench; and Project. According to AISHE 2021 report 338 Lakh students enrolled in UG & PG programs. Maximum enrolment was in Arts & commerce, then in science and engineering. 37.70 lakh students enrolled at the undergraduate level in Engineering. At the PG level enrollment in all branches was 12.6% of total enrolment. PhD students were 203 thousand (2019-20). The maximum number of PhDs enrolled were in Science, Engineering and technology. According to the National Medical Commission, the number of medical colleges are 612 with seats of about 92 thousand. All these graduates in science, engineering, and medical science will have to interact with society in the Indian language for effective service to society. There is a need to empower them with skills of effective, comprehensible, easy-to-understand knowledge transfer from English to Indian language.

MT (Machine Translation) is acceptable if 80% or more of human efforts are saved and the rest is left for post-editing. The translation is essentially the Transfer of Knowledge from one Language into another language. Important is to *use technology to augment creative technical writing*. Focus needs to be on Transcreation अनुसृजन (*anusrujan*) that is *learner-centric* rather than mere translation that is *author-centric*. That demands evaluation on ease of use, communication, comprehension, and prompting creative ideas. There must be access to dictionaries, parsers, translation memories, term banks, and best practices in scientific writings.

It is possible to have speech-to-speech communication. Knowledge in a script may retain community knowledge and culture. and facilitate effective communication. Sanskrit

Table 3: Innovation–centric Education Radar: A 360-Degree View [7]

| S/No. | Dimension | Definition | Remark |
|-------|-------------------------------|--|--|
| 1. | Offerings (What) | Develop innovative new products or services or Human Resources in emerging areas of technology. | Develop and scale up intake in UG, PG, and doctoral programs in emerging inter-disciplinary areas. |
| 2. | Platform | Use common components or building blocks to create derivative offerings. | Develop specialized modular training programs in thrust areas of national relevance. |
| 3. | Solutions | Create integrated and customized offerings that provide end-to-end solutions. | Integrate domain-specific specialized programs into PG degree programs. R&D to provide High-Tech solutions in Low-Tech (rural) environment. Integrate higher technical education with vocational education |
| 4. | Beneficiaries (Who) | Discover unmet user needs or identify underserved user segments. | Attract talent to work in Advanced emerging areas. New Practice Engineering Graduate Program for ITI pass outs. |
| 5. | Stakeholders’ Feedback | Redesign user interactions across all touch points and all moments of contact. | Revisit Curriculum, pedagogy and projects in collaboration with industry in view of rapid technological advancements and emerging areas like IoT, AI, 3D Printing, Data Analytics, Machine Learning, Soft-Robotics, etc. |
| 6. | Value Capture | Redefine how organization / institution creates innovative new revenue streams. | Develop project proposals for sponsored research and consultancy. Organize i-skills testing and certification. |
| 7. | Processes (How) | Redesign core operating processes and integrate with other processes to improve efficiency and effectiveness. | Establish innovation-centric teaching-learning processes integrated with R&D projects and visits to other centers, and industry. Effectively integrate ICT aids, e-learning resources and project-based collaborative learning in teaching-learning processes. |
| 8. | Organization | Change form, function or activity scope of the organization. Recognize the change imperative. | Evolve a new Practice Engineering Graduate Program for ITI pass outs to balance knowledge, skill and relevance to society. |
| 9. | Supply Chain | Think differently about faculty, knowledge sourcing and fulfilment. Inspire to innovate out of box and learn from initial innovations. | Attract talent from industry to meet demand for industrial innovation. Closure interaction with industry. Inspire to innovate out of box. Get skilled intake from vocational streams. |
| 10. | Presence (Where) | Create new distribution channels or innovative points of presence, including the places where offerings have demand. | Create Extension Study & Training Centers, webinars etc. to reach the unreached in far off places. Mobile labs and case-practices to introduce. |
| 11. | Networking | Create network-centric intelligent and Integrated offerings. | Effective knowledge collaboration within the organization and with premier institutions/ NGOs, R&D labs and industry |
| 12. | Brand | Leverage a brand into new domains. | Lateral business innovation using brand name for novelty and user friendliness. Start-ups in incubators. |

scriptures have knowledge, worldly processes, and an understanding divine knowledge. There is rich literature. Sanskrit is considered the mother world language. Panini (400 BC) considered phonetic Devanagari script and gave rules for Sanskrit grammar, pronunciation, and also Script grammar. The Sanskrit Phonetic Alphabet is defined in terms of place and manner of articulation. It may be enhanced for all Indian Languages, and may termed IPA: Indian Phonetic Alphabet. The model of it can be :

- Place of Articulation (P): velar, palatal, retroflex, dental, labial
- Manner of Articulation (M):
- voice-less (अघोष)-Unaspirated (अल्पप्राण), voice-less (अघोष)-Aspirated (महाप्राण), voiced (अघोष)-Unaspirated (अल्पप्राण), voiced (घोष)-Aspirated (महाप्राण), nasal (नासिक्य), semivowel/vowel derivatives, fricative voiceless and voiced.
- Translation Approaches
- *Rule-Based (RBMT)*: Rationalism (morphological, syntactic & semantic analysis) more time for MT & less storage requirement
- *Corpus-Based (CBMT)*: Empiricism (use bilingual text corpora) less time for MT & more storage requirement.
- Direct, Transfer & Interlingua MT
- *Transfer*: analysis, syntactic & semantic structural abstraction and generation In both cases SL(n) to TL(k) translation will require n x k transfer steps,
- *Interlingua*: analysis into abstract universal representation and generation. SL(n) to TL(k) translation will require n + k transfer steps.
- Statistical and Example-Based MT
- SMT: based on statistical models of bilingual text corpora.
- EBMT: Example based MT, 3 steps of example acquisition, example base management and example application & synthesis.
- Several MT Systems were developed for Indian Languages with the funding by Min. of Electronics & IT, Govt of India:
- English to Hindi: Anusarak , Matra , Mantra , Angla-Bharti
- IL->IL: SAMPARARK (IL-IL) P-H, H-P, U-H, Te-Ta

- ANUVADAKSH (E-IL) IL: H, M, B, O, Ta,U
- ANGLA-BHARTI (E-IL) IL: B, P, Mal, U
- CILA : A, B, G, H, M, O, P, Ta, Te
- IL: Indian Language, E: English , A: Assamese, B: Bengali , G: Gujarati , H: Hindi , K: Kannada , M: Malayalam , O: Oriya , P: Punjabi , Ta: Tamil , Te: Telegu , U: Urdu

Online Translators in the context of Indian Languages

Google, Microsoft, Facebook, Yahoo : www.Translate.google.com/manager

www.Bing.com/translator

Business Opportunities: T2S, S2T, S2S

Evaluation of Machine Translation

BLEU, METEOR, LEPOR, COMET, MATESE

Glyph-based encoding standard (one byte) ASCII for Roman script and ISCII (one byte) for Roman + an Indic script (Enhanced Devanagari accommodating all Indian Languages). UNICODE (two bytes) covers over 100 languages.

- Localization: BOSS, Firefox, Thunderbird (email SW), ECKO (Content Management)
- 7Bn people + 10^{18} (zeta)byte content = Big data disconnect ?
- Language Switch: Browser-based Localization, Localization of databases,
- Homophone Engine for searches, e.g. Chowdhary – 64 variants, Upadhyay – 28 variants,
- Free Hindi fonts and software downloadable from <http://ildc.in> -
- Fonts, KB drivers, Open Office, Browser, typing tutor, code/font converters, lexical analyzer, POS tagger, TTS, OCR, Transliteration
- Issues relating to (L10N : Localization), and (I18N : Internationalization) are

Proposed Course Curriculum for Technical Translation/Transcreation

Unit 1. Principles of Translation

Unit 2. Contrastive (SL-TL) Language Analysis: English & Hindi

Unit 3. Language Technology

Unit 4. MT and best practices on the Transcreation workbench (with Semantic, Discourse Anaphora, etc.)

Unit 5. Evaluation of Translation: issues and limitations

Unit 6. Project

Tentative time distribution of Theory (60%), Practical (40%), & marks 80% for Theory and practical assessment and 20% marks for Project work that may be in grade A or B. This may correspond to 20% marks.

Mission BHASHINI

Mission BHASHINI with an outlay of about Rs 500 crore over 5 years in co-creative mode involving Govt. R&D institutions and private entrepreneurs and startups.

The objectives of the Mission are:

1. To create free-to-use language (Text, Image, and Speech) data and AI models in 22 scheduled Indian languages.
2. To provide translation and enable voice-based services.
3. To build a National Public Digital Platform for languages to develop services and products for citizens by leveraging the power of artificial intelligence and other emerging technologies.

Mission BHASHINI may support projects such as (1) a Plagiarism Test of a text in Hindi: to develop software like TURNITIN for English, and (2) a Technical Transcreation workbench: MT tools, Linguistic resources, evaluation tools, etc.

Recommendations in Light of New Education Policy —2020

1. **Reform, Transform, and Perform.** The NEP document mainly proposes various steps to the

Reform Education System in India. Guidelines are presented for *Transform*. Infrastructural issues are mentioned for *Perform*. Mechanism and Roadmap need to be worked out.

2. **Accreditation of Research and Teaching.** Type-1 Universities/Institutions may focus on serious research and their accreditation may have high weightage for that under Teaching-Learning processes. Whereas Type-2 teaching predominant institutions need to be assessed on high-quality innovative teaching processes, and perhaps some research publication jointly with the student. Assessment of good teaching needs to be worked out and assessed by NBA and NAAC.

3. **Publication of Research Papers and IPR.** NEP is silent on the promotion of Indian Journals like the Institution of Engineers, IETE, Vikalpa, etc., and vernacular scientific research journals. Of course, publication of research in the Indian Language is NOT considered useful. This is a contradiction to the vision of “India Centred Education”. We may suggest that the Min. of Education and other Government Departments must provide financial support of holding/organizing conferences at centrally funded institutions wherein students present their peer-reviewed research papers in Hindi and these papers are published in a peer-reviewed research journal in Hindi. Request for holding conferences for presenting peer-reviewed research papers in regional languages at the state-supported institutions may also be supported in center-state partnership mode. The condition may be peer-review and publication in peer-reviewed journals. This must be promoted under the motto “Research to Innovation for Entrepreneurship”.

AWSAR (Augmenting Writing Skills to Articulate Research) of DST is worth mentioning.

Table: 4 Marking Scheme for Course on Technical Translation/Transcreation

| UNIT | DESCRIPTION | Theory (60%) | Practical (60%) | Marks 80% + Grade |
|--------|--|--------------|-----------------|-------------------|
| UNIT-1 | Principles of Translation | 12 | -- | 12 |
| UNIT-2 | Contrastive (SL-TL) Language Analysis: English & Hindi | 12 | 8 | 16 |
| UNIT-3 | Language Technology | 12 | 12 | 18 |
| UNIT-4 | Translation: Issues, Constraints and Evaluation | 12 | 8 | 16 |
| UNIT-5 | MT and practice on Transcreation workbench | 12 | 12 | 18 |
| UNIT-6 | Project | -- | | Grade A/B |

Under this scheme PhD and Post Doc fellows write articles in popular language in English / Hindi based on their research that are easy to understand and comprehend by layman. There is a need to have a mandatory credit course on technical writing and communication skills in Hindi also in all Central Universities and Centrally Funded Institutions.

Under Teachers Quality, there is emphasis on the publication of research papers in peer-reviewed high-impact SCOPUS index journals. This is the same for both research-focused and teaching-predominant institutions. Further *publication in peer-reviewed research journals in Hindi / other Indian Languages should also get the same recognition*. Necessary Correction is required in API (Academic Performance Index) for internal promotion and during the NAAC / NBA assessment procedure.

In view of emphasis on *inclusive innovation* it is desirable that all the Government sponsored technical conferences, seminars, and workshops must have at least 20% research papers, overview papers must be in Hindi, and a *panel discussion with representatives from the user community – farmers, micro and small entrepreneurs*. States may do it in local languages.

4. Teachers' Involvement in Incubation Units.

Research and Innovation are central to growing and sustaining a large vibrant knowledge society and economy. Teachers must be encouraged and assessed for setting up incubation units and start-ups. They have to become examples for entrepreneurship. NITI Aayog may organize annually regional / district-level free *open IT (Integrated Technology) Clinics for micro and small entrepreneurs* involving a cluster of institutions.

5. Balancing Technical Courses.

such as tentatively 40% from core engineering topics, 20% from other disciplines, 20% from liberal arts, 5% internship, and 15% group projects. Introduction to bioscience may be included in all programmes. The first year is the transition with respect to language from regional language to English, so the medium of instruction must be in a mixed mode of English and Hindi / Regional Language. Emphasis be on comprehension of the basic concepts through group discussions and practical.

6. Professional programs should ensure connect-up between modern concepts and those in the Indian traditional knowledge base. There is a reference to 64 to 86 to 512 art variations. Education in Nalanda and Takshila was holistic with super specialization as well. Panini (4th BCE) gave a comprehensive insight into Linguistics. Aryabhata (~500 AD) contributed significantly in Mathematics and Astronomy. Bharat Muni is known for theatre studies, and musicology that combine concepts of physics, maths, and aesthetics. Many more like Kanad, Gautam, Pingala, Patanjali, Yask, August, and Parashar contributed significantly to the body of knowledge. There is a need to establish a linkage between the Indian traditional knowledge system and with modern knowledge system. *The current non-credit mandatory elective on the Essence of Indian Traditional Knowledge should be a credit course.*

7. Several Indian nationals after completing their PhD and Post-Doctoral abroad for 3-4 years try faculty positions in premier Indian institutions, but they do not get a response, or in some cases, they are temporarily offered visiting positions with uncertainty. Then they try again within the USA and often succeed in getting faculty positions and research grants. On one hand, there is a paucity of faculty in premier institutions like IITs, and on the other hand *aspiring Indian talents from abroad are disappointed* by bureaucracy in academic institutions. This needs to be heeded to.

8. ODL (Open and Distance Learning) is to be promoted. But the reality is that ODL passouts are not considered at par, and are often left out. Some mechanisms must ensure justice for them. SWAYAM is a good initiative, but there must also be some way to get online learning tests and certifications. AICTE may consider that for professional education. MOOCs are becoming popular; certification facilities should be available.

9. It is good to set up NRF (National Research Foundation). Emphasis must be on *Return on Investment in research*. Open-ended research may be given low select priority.

Patenting in India is not part of Indian culture, but modern competitive economies compel for patenting. It is easy to get a patent filed, but it

is very difficult for a patent is productive and in demand. **Outcome-based Patents** may be given weight depending on using it for self-entrepreneurship in a start-up or incubation unit.

10. Chairman of the Board of Governors of any technical institution should be an eminent scientist, academician, or industrialist, and must not be a politician or a bureaucrat.

More and more professors must *be allowed to gain experience as Director / Principal / Vice Chancellor*. The period of a Director or Vice Chancellor *should be a maximum of 5 years with no further extension*. He / She must return to academics and then be permitted to try any posting on deputation. Before taking charge as Vice Chancellor or Director, one must undergo a short program introducing administrative and financial issues, and human resource management.

Conclusion

The National Education Policy was developed soon after independence. *First*, Radhakrishnan Commission, *Second*, National Policy on Education (NPE 1968), *Third*, National Knowledge Commission, *Fourth*, National Education Policy (NEP) 2020. Part 1 deals with School Education, and Part-2 deals with Higher Education. This paper deals with various aspects relating to teachers – training, research, and performance assessment. Some decisions by UGC such as fresh MTech as Assistant Professor in colleges. Different norms may cause problems in deteriorating quality of education, institutional cross-migration of teachers, etc. There is a need for continuous skill upgradation of teachers and staff. Quality Upgradation in Engineering Education Network (QUEEN) is suggested for this purpose. Collaboration is desirable among universities, renowned institutions, industry, Government labs, and institutions.

Creating an innovative and conducive education system at colleges is a challenging aspect. Study reveals that Indian scientists and engineers lack innovation skill, Innovation Efficiency is much lower compared to China, Germany, South Korea, France, and Japan which have Higher Education in their non-English languages. This needs to be considered while implementing NEP. Technical terminology websites

must be searchable and allow suggestions that may be moderated and the revised terminology may be available in real time. A transcreation workbench may be developed to assist humans in transcreation with drafts such as MT (machine translation), searchable terminology, and thoughts by linguists and eminent scientists.

Academic faculty classification may be Professor (Research), Professor (Teaching), and Professor (Practice). Reconsideration of UGC is sought to allow fresh graduates to join colleges as Assistant Professors, thus promoting rote learning and flourishing coaching centers.

Future education systems will have blended learning, higher bandwidth, and AI to augment intelligence (AI). AI for AI. Holistic education may need stronger collaboration between specializing disciplines to evolve relevant curricula and skill enhancement opportunities.

References

1. Anand, Geeta (2011). Graduate Millions, but Too Few are Fit to Hir”, *The Wall Street Journal*, April 5.
2. Khare, Amit (2011). Overview of Higher Education Sector in India, *EDGE Conference, New Delhi*, 10-11 March.
3. National Vocational Education Qualification Framework (NVEQF), *All India Council for Technical Education*, October 2011.
4. Purao, S., Vaishnavi, V., K., Welke, R. and Lenze, L., (2009), “A Framework for Problem-based Learning of Systems Development and Integration”, *Proceedings of 15th Americas Conference on Information Systems* (Aug 6-9), San Francisco, Cal,
5. Savoia, Alberto and Copeland, Patrick (2011). “Entrepreneurial Innovation at Google”, *IEEE Computer*, April 1, Vol. 44, No. 4, pp 55-61
6. Vikas, Om (2011). “Innovation-Centric Teaching and Learning Processes in Technical Education”, *Proceedings of IETEC’11 Conf*, Kuala Lumpur, Malaysia, 16-19th Jan.
7. Vikas, Om (2010). Evolving Innovation Radar, *Ennovate*, e-journal of IGNOU, February.
8. Delores Report, 1996: “Rethinking Education towards a Global Common Good?”
9. Vikas, Om (2019). “Strategy for Teacher Empowerment in Engineering Education”, *University News*, AIU, Vol. 57, No. 42, October, pp 7-15.

□

From Classroom to Career: The Role of National Education Policy—2020 in Fostering Sustainable Development through Apprenticeships

Sangeeta Jauhari*, Abhishek Pandit** and Kavita Indapurkar***

In an era where education serves as the cornerstone of personal and societal progress, the National Education Policy (NEP) of 2020 in India stands as a transformative milestone. At its heart, NEP 2020 aspires to bridge the gap between classroom education and real-world applicability, all while promoting sustainable development through apprenticeships. This comprehensive policy overhaul is more than just an educational reform; it's a visionary roadmap towards empowering India's youth, nurturing their potential, and propelling the nation into a brighter future.

Understanding the National Education Policy

NEP–2020 is a testament to the Indian government's commitment to nurturing young talent. It recognizes that traditional classroom education alone is insufficient to prepare students for the complexities of today's job market. The policy acknowledges that students need practical exposure, skill development, and hands-on experience to seamlessly transition from education to employment. One of the fundamental principles of NEP 2020 is the promotion of holistic education. This involves not just imparting knowledge but also focusing on the holistic development of students. It emphasizes critical thinking, problem-solving, creativity, and communication skills. This shift in educational focus ensures that graduates are well-equipped for the demands of a dynamic workforce.

Flexibility and Multidisciplinary Learning

Under the new policy, students are encouraged to explore a wide range of subjects, fostering a multidisciplinary approach to learning. This flexibility

**Pro Vice Chancellor, Rabindranath Tagore University, Bhojpur, Raissen, Bhopal- 464993. E-mail: sangeeta.jauhari@aisectuniversity.ac.in*

***Pro Chancellor, SCOPE Global Skills University, Bhopal-462047. E-mail: Abhishek.pandit@eduvantage.in*

****Professor and Head, Amity School of Economics, Amity University, Sector-125, Noida–201313, Uttar Pradesh. E-mail: kindapurkar@amity.edu*

allows students to discover their passions and interests, leading to more informed career choices. It also reduces the pressure associated with a one-size-fits-all approach to education. Flexibility in education allows individuals to incorporate multidisciplinary elements into their learning journeys. This means that students can adapt to changing circumstances and acquire a diverse set of skills, ranging from technical expertise to critical thinking and communication skills. They can navigate the complexities of sustainable development, considering economic, social, and environmental dimensions simultaneously. Sustainable development is a long-term endeavor. The combination of flexibility and multidisciplinary learning ensures that individuals remain relevant throughout their careers. They can continually integrate new knowledge and perspectives into their work, contributing to the ongoing advancement of sustainable development goals.

Embracing Technology

NEP—2020 recognizes the pivotal role of technology in education. The policy aims to integrate digital tools and resources into the learning process, making education more accessible and engaging. This not only prepares students for a technology-driven world but also in advancing the cause of sustainable development. Technology-enabled education transcends geographic boundaries. It allows students in remote or underserved areas to access quality education, reducing disparities in educational opportunities. This, in turn, leads to a more educated and empowered population. Digital tools encourage lifelong learning, which helps people become more flexible and employable and promotes economic sustainability. The gathering and processing of enormous volumes of data is made possible by technology. Students who get data literacy instruction are better prepared to make data-driven decisions that can be used in a variety of sustainable development projects, including resource management, climate change mitigation, and urban planning. Recognizing the use of technology in education is a strategic step

toward furthering sustainable development, not just a reaction to the digital age. The Crucial Role of Apprenticeships

Apprenticeships are central to NEP 2020’s strategy for closing the education-to-employment gap. They give students the hands-on training and exposure to the working world they need to succeed in their chosen professions. Apprenticeships give students the chance to put their classroom learning into practice by working in real-world workplace environments. Because it gives students practical knowledge and insights that they cannot learn through theory alone, this hands-on experience is priceless. Students who participate in apprenticeships get to know the customs and trends unique to their business. This fit with industry demands makes sure that graduates are not only employable but also well-equipped to make significant contributions to their subjects of study. The focus on apprenticeships under NEP 2020 lowers unemployment rates. Apprenticeship graduates have a higher chance of finding a job fast because of their practical knowledge and real-world experience. In addition to training for traditional jobs, apprenticeships foster entrepreneurship. Students are better prepared to launch their businesses and contribute to economic progress, which will eventually end the hunger crisis and abolish unemployment by working directly with professionals and learning about the industry.

In order to shape the workforce of the future, education and training must operate in tandem. As we negotiate the changing employment landscape, cutting-edge strategies like the “learn and earn model” and “on-the-job training” are emerging as powerful change agents. There has been a growing understanding in recent years that traditional educational courses frequently fall short of providing people with the useful skills required for the labor market of today. Due to the involvement of startups, the apprenticeship ecosystem has been revitalized as a result of this awareness. The “learn and earn model” represents a dynamic shift in how we perceive education and training. It encapsulates the idea that learning should not be confined to the classroom but should seamlessly intertwine with opportunities for individuals to earn while they learn. This model heralds a paradigm shift away from the conventional wisdom that implies a stark division between education and employment. Instead, it emphasizes the

Figure 1: The Moderating Role of Skill Development in Enhancing Employment Opportunities

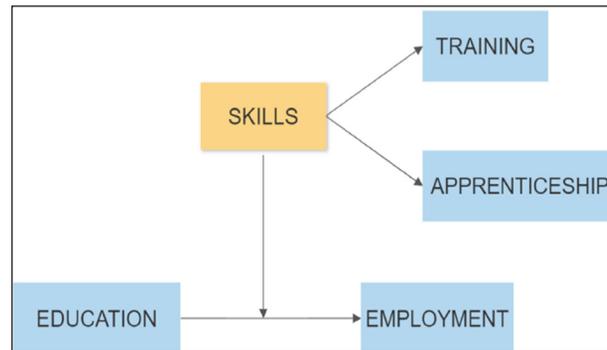
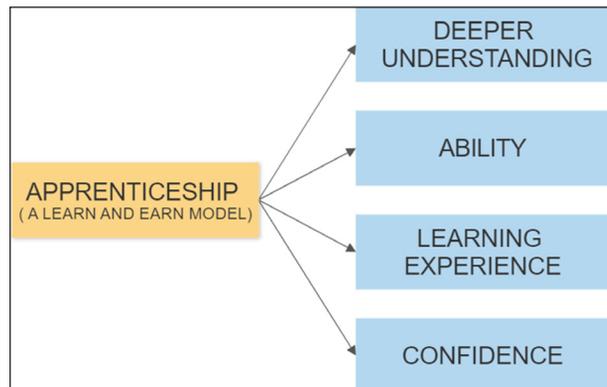


Figure 2: Learn and Earn Model



fusion of these two realms, offering a pathway where individuals can actively participate in the workforce while simultaneously gaining valuable skills and knowledge. On-the-job Training (OJT) stands at the heart of this transformative approach.

A tried-and-true practice called OJT allows people to actively work in their chosen industry while developing practical skills and competencies. It provides a hands-on learning environment where apprentices are guided by seasoned mentors within the firm through practical applications. OJT has typically been connected to well-established businesses and industries. The apprenticeship ecosystem is given new vitality by its redesigned function in the context of startups. Startups, known for their creativity and adaptability, are in a prime position to breathe new life into the apprenticeship scene. Startups provide apprentices a front-row seat to the exciting world of entrepreneurship by providing specific training programs catered to the needs of their businesses. These programs often focus on cutting-edge domains such as software development, data science, digital marketing, and more, where the demand for skilled professionals is ever-expanding. A key facet of the

'learn and earn' model within startups is the symbiotic relationship it fosters between the organization and its apprentices. These programs bridge the gap between formal education and practical experience, enabling participants to apply their theoretical knowledge in a real-world context. It is not a one-way street; rather, it is a mutually beneficial journey where apprentices contribute their energy and fresh perspectives to the startup's growth while gaining invaluable skills in return. Mentorship within startups plays a pivotal role in this process. Apprentices are mentored by seasoned workers within these dynamic firms as they navigate the complexities of the sector. This mentoring relationship is mutually beneficial since it allows mentors to hone their coaching and leadership abilities while also promoting a startup's culture of ongoing learning. Startups can also rotate apprentices around different divisions, giving them a comprehensive understanding of how the business is run. Apprentices are allowed to explore their interests and talents thanks to this broad exposure, which ultimately directs them toward jobs that fit their interests and skill sets. Startups are renowned for their flexibility and adaptability, and this quality carries over to their apprenticeship programs, enabling the creation of specialized learning opportunities that support unique growth paths. While the development of technical skills is the primary goal of apprenticeships in startups, these programs recognize the importance of soft skills as well. Communication, problem-solving, teamwork, adaptability, and critical thinking are cultivated alongside technical competencies, equipping apprentices with a well-rounded skill set that is highly sought after in today's job market. Startups are also attuned to the financial aspect of apprenticeships. While these programs are primarily viewed as learning experiences, startups often provide competitive compensation and benefits to attract and retain top talent. Stipends, performance-based bonuses, and the potential for full-time employment upon completion of the apprenticeship sweeten the deal for participants.

Moreover, startups embrace diversity and inclusion within their apprenticeship programs, aiming to create a workforce that reflects the rich tapestry of talent in society. Encouraging applicants from underrepresented groups to participate and creating inclusive environments sends a powerful message about the startup's commitment to equal

opportunity. As apprenticeships within startups gain momentum, they also contribute to the broader talent pool, addressing skill shortages in industries that are at the forefront of innovation. These programs provide startups with a steady stream of motivated, skilled individuals who can contribute to the company's growth and success. In doing so, startups bolster their competitiveness and adaptability in a rapidly changing business landscape. The success of apprenticeship programs within startups is not solely measured by their impact on the organization but also by their contribution to individual growth and development. The efficacy of these programs is measured using key performance indicators, such as apprentices' progress, retention rates, and the proportion of apprentices who move on to full-time positions. Additionally, startups are aware of the value of advocacy and teamwork in the development of the apprenticeship ecosystem. They work with government organizations and educational institutions to develop regulations and incentives that encourage apprenticeship projects, as well as with other startups and industry networks. The goal of this group endeavor is to develop an ecosystem that will support companies, people, and the economy. It is impossible to exaggerate the importance of technology in these apprenticeship programs. Startups use technology to augment and facilitate the learning process. Online learning modules, learning management systems, and remote work options are integrated into apprenticeship frameworks, making education and training more accessible and adaptable to the needs of a modern workforce. Furthermore, startups are advocates for the sharing of success stories. By showcasing the achievements of apprentices who have excelled within their organizations, they inspire more startups to embrace apprenticeship programs. These success stories serve as beacons of hope for aspiring apprentices, highlighting the transformative potential of the 'learn and earn' model within startups. The revival of the apprenticeship ecosystem through startups is a testament to the innovative spirit of entrepreneurship. The synergy between education and training, embodied in the 'learn and earn' model, is redefining how we prepare individuals for the workforce. On-the-job training within startups provides a dynamic platform for individuals to gain practical skills, while startups, in turn, benefit from a steady influx of motivated talent. As startups champion diversity, embrace

technology and collaborate with stakeholders, they are not only shaping the future of work but also nurturing a culture of learning, growth, and opportunity for all.

In-house training is a time-honored tradition anchored on the transfer of specialized skills and craftsmanship that has been passed down through generations. It embodies the essence of experiential learning, in which knowledge is passed directly from master craftsmen to their apprentice, frequently within the context of a familial relationship. This age-old practice, whether it's a weaver teaching their son how to weave beautiful patterns or a craftsman teaching their offspring the art of making, exemplifies the enduring legacy of skills and traditions.

In a modernized environment, the mentorship component of in-house training is vital. Seasoned experts not only pass on technical skills, but also years of experience, problem-solving ability, and the insight to negotiate challenging situations. This information transfer assists young people in developing a comprehensive understanding of their industry and accelerates their professional development. The mentor-apprentice connection also encourages the sharing of new perspectives and ideas, developing an innovative culture within enterprises.

In-house training programs can be strategically matched with the specific goals and demands of a firm. This tailored strategy guarantees that apprentices are trained in skills that are directly related to the organization's goals. It encourages new personnel to be seamlessly integrated into the company's culture, procedures, and mission, which can boost productivity and efficiency. This harmonious blend of education, training, and entrepreneurship promises a brighter future for individuals, startups, and society as a whole.

Challenges and the Way Forward

While NEP 2020 is a commendable step in the right direction, there are challenges to be addressed. Adequate infrastructure, funding, and quality assurance are essential for the effective implementation of this policy. Moreover, raising awareness about the benefits of apprenticeships and ensuring equal access to opportunities are critical. To fully harness the potential of NEP 2020, stakeholders, including the government, educational institutions, and industry leaders, must collaborate closely. This

partnership can create a seamless transition from classroom education to apprenticeships, ensuring that the policy's vision of sustainable development becomes a reality. Many individuals still have a limited grasp of apprenticeships and may regard them as less respectable than regular educational courses. It is critical to raise awareness and change opinions about the usefulness of apprenticeships. Startups, particularly those in their early phases, may have limited resources to start and maintain apprenticeship programs. Financial constraints, in particular, can be a major issue. It might be difficult to ensure that experienced personnel have the time and skills to effectively coach apprentices. In a crowded startup setting, it may be difficult to provide enough mentorship and training. Developing organized apprenticeship programs that correspond with the startup's specific objectives and industry regulations might take time and resources. Retaining apprentices and successfully transitioning them into full-time roles within the startup can be challenging. High turnover or attrition rates can undermine the long-term success of apprenticeship programs.

By actively participating in the revival of apprenticeship programs, startups can contribute to the development of a skilled and adaptable workforce while also fulfilling their own talent needs. This approach not only benefits individual apprentices but also strengthens the startup ecosystem and the broader economy.

Conclusion

In conclusion, the National Education Policy (NEP) 2020 in India is a transformative blueprint for the country's education system. It not only emphasizes holistic education and multidisciplinary learning but also places a significant emphasis on apprenticeships. By bridging the gap between classroom education and real-world experiences, NEP 2020 is nurturing a generation of skilled, employable individuals who possess an entrepreneurial mindset. This, in turn, fosters sustainable development in India by equipping its youth with the tools they need to succeed. As we move forward, the successful implementation of NEP 2020 will require concerted efforts from all stakeholders. It is not merely a policy but a promise for the future of India, where education is the key to unlocking opportunities and driving sustainable development. While reviving

apprenticeship programs in the context of startups presents challenges, a proactive and strategic approach can address these obstacles. By advocating for apprenticeships, securing financial support, investing in mentorship, and adapting program models to suit the startup environment, it is possible to create successful and sustainable apprenticeship initiatives. The way forward involves a collective effort from startups, governments, educational institutions, and industry associations to nurture a skilled and adaptable workforce for the future.

As said by Lisa Christine et. al., Apprenticeship may sound to be not so reasonable, as it would require intense workplace time pressure, but—with some innovative upgradation—it can efficiently undertake speedy capability building among the younger citizens that is required by the present-day workforce. For a country as young as India, apprenticeship with certain alterations, can be the best call in the times to come.

References

1. Forbes-<https://www.forbes.com/sites/brandonbusteed/2023/05/25/learn-and-earn-is-the-future-of-everything-education-and-work/?sh=54e6bdec24bb>
2. Chankseliani, M., and Anuar, A., M. (2019). Cross-country Comparison of Engagement in Apprenticeships: A Conceptual Analysis of Incentives for Individuals and Firms, *International Journal for Research in Vocational Education and Training*, 6(3), 261–283.
3. Chankseliani, M., Keep, E., and Wilde, S. (2017). People and Policy: A Comparative Study of Apprenticeship Across Eight National Contexts. In *People and Policy: A Comparative Study of Apprenticeship Across Eight National Contexts* (pp. 1–116). Wise Qatar Foundation.
4. Lisa Christensen, Jake Gittleson, Matt Smith, and Heather Stefanski <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/reviving-the-art-of-apprenticeship-to-unlock-continuous-skill-development>
5. Economic times <https://economictimes.indiatimes.com/jobs/fresher/heres-why-you-should-consider-apprenticeships-for-a-stable-future/articleshow/101254863.cms?from=mdr> □

(contd. from pg. 26)

the prospects and interests of the coaching centers. In fact, it would make the system, healthy, ethical, and truly rewarding.

References

1. Srivastava, D., K. (2023). “India is Climbing the Ladder of Large Economies at an Accelerated Pace”, https://www.ey.com/en_in/tax/economy-watch/india-towards-becoming-the-third-largest-economy-in-the-world, August 25.
2. Sachs, Goldman (2023). “How India Could Rise to the World’s Second-Biggest Economy”, Goldman Sachs, 06 July.
3. UNICEF (2019). Adolescent Development and Participation”, 3rd June. <https://www.unicef.org/india/what-we-do/adolescent-development-participation>.
4. UNFPA-Inida (2014). “A Profile of Adolescents and Youth in India”, 30 June. https://india.unfpa.org/sites/default/files/pub-pdf/AProfileofAdolescentsandYouthinIndia_0.pdf.
5. Radhakrishnan, Rajiv and Andrade, Chittaranjan (2012). Suicide: An Indian Perspective, *Indian J Psychiatry*, Oct-Dec., 54(4): 304–319.
6. Sahoo, et., al. (2023). Prevalence of Suicidal Behavior in Adolescents in India: A Systematic Review and Meta-

analysis, *Asian Journal of Psychiatry*, Volume 86, August, 103661.

7. Rana, Shailja, Chadha, N., K. and Rathore, Deepesh (2017). Adolescent Suicides in India, *Indian Journal of Health and Wellbeing*, 8(6), 535-537.
8. Times of India (2023). NEET Aspirant Ends Life in Kota, 24th Suicide in 2023, Sep 19. <https://timesofindia.indiatimes.com/city/jaipur/neet-aspirant-ends-life-in-kota-24th-suicide-in-2023/articleshow/103769216.cms?from=mdr>
9. “61 IIT, IIM, NIT Students Died by Suicide Since 2018: Govt Data”, March 29, 2023. <https://timesofindia.indiatimes.com/city/agra/61-iit-iim-nit-students-died-by-suicide-since-2018-govt-data/articleshow/99079397.cms?from=mdr>
10. Wikipedia, ‘Education’, <https://en.wikipedia.org/wiki/Education>.
11. Govt. of India. Right to Education, Ministry of Education, Govt. of India. <https://www.education.gov.in/rte>.
12. UNESCO, ‘The Right to Education’, <https://www.unesco.org/en/right-education>.
13. University of the People, ‘Benefits of Education are Societal and Personal’, <https://www.uopeople.edu/blog/benefits-of-education-are-societal-and-personal/>. □

Leadership and Communication Skills

G Gopalakrishnan*

The use of some relevant quotes or stories in sync with the topic being discussed could help remove the boredom of a speech or message. Intonation is often needed to keep the spoken material interesting, as it mostly reflects emotions, stresses, or emphasis, or indicates one's attitudes during a speech. A good piece of spoken English needs to be "concise, complete, coherent, and courteous". The display of total confidence or arrogance should be avoided.

All of this helps to improve one's communication skills. An industry leader needs to have complete control over his language and the way he communicates. Apart from being a good communicator, a leader needs to be good at dealing with those with whom one needs to interact be good at strategic planning and development, be technically and business-wise knowledgeable, and above all get things done.

Communication Skills

Communication skills help in interacting with a wide variety of people, whilst maintaining good eye contact. Demonstrates one's varied vocabulary control, targeting the audience effectively and presenting one's views appropriately. One may have to interact with a wide range of organizations or institutions and communication is normally a two-way process – which demands a good listener to reply and a good speaker to respond. Though communicating is a two-way process, either through written or verbal means, most of the day-to-day processes of communication being non-verbal, are through signals, gestures and facial expressions, body language, altering the tone of the voice, or even our appearance, which can reinforce or undermine the topic of spoken words. Either profession or society demands a reasonably good communicator!

Interpersonal Skills

In such cases, in a one-to-one interaction, interpersonal skills come to the fore! Listening seems to be the main factor in deciding interpersonal issues through proper listening and understanding of the other person. Heavy rapport building and persuasion require far more effort in our communication processes. Emotional intelligence seems to be the need of the hour while delicate arguments pervade! To be able to deliver amongst peers and workers, a little amount of empathy also comes in handy to establish yourself as a leader.

* *Provost, Dr. MGR Educational and Research Institute, Chennai-600010 (Tamil Nadu). E-mail: drgg2007@gmail.com*

Personal Skills

Many a time, one's self-esteem and confidence help one to overcome problems faced during the communication processes and build up a positive feeling within. This improves self-projection, creates a feeling of assertiveness within and the Charisma one enjoys, carries the communication through! During times of stress, there could be a possibility of one losing his assertiveness for what he feels is right, and on these occasions, it would be better to take time or relax before actually communicating till the stress part reduces. It is through these difficult times, that one loses interest for communicating difficult problems.

Leadership Skills

Leadership skills are a widely discussed and debatable topic. A leader has to be one who can handle a variety of jobs, all at the same time; and one who can adapt, lead and manage under all circumstances. Some leaders have their inborn attitudes in that they can adjust to any system demand. However, specific industries or situations demand specific qualities, which of course need specific training or capabilities. Strategic thinking, planning and delivery, facing industry competition, and management of personnel are some traits that are expected of a good leader!

Strategic planners are those who have a far-sighted vision – think far ahead of times, where they could stand in terms of contribution, say, marketing, coping with newer technologies, or perhaps the market requirements of the future. A visionary normally becomes a great contributor leading the crowd much ahead of time! Such a leader not only dreams of the things to come, but also communicates and plans for things to be in place and procured by the time, according to the calendar one has in mind. In that direction, one gathers sufficient information, to put everything into practice. Such planning needs to take into consideration a gamut of things, for instance Porter's 5 Forces – "Competitive Rivalry, Supplier Power, Buyer Power, Threat of Substitution, and Threat of New Entry". Apart from planning, a leader needs to focus on what needs to be done next. Just converting ideas into action would require proper timely delivery, if the vision is to fructify! Project planning and management, taking the necessary risks including budgetary needs also depend on the leader!

It would not be out of place to bring in certain management practices, suggesting the traits a leader should follow; should be apolitical as far as the role is concerned in an organization, not giving in to petty squabbles amongst peers or functionaries, have a technological bent of mind towards systems and processes and above all be sociable to achieve desired goals, to the extent possible. Many a time analysing, 'Pestle' - the key six external factors (Political, Economic, Sociological, Technological, Legal, and Environmental) could help a leader in organizational matters, helping to develop and build an organization!

Group Development Skills

A leader should not only evolve based on his limited exposure and knowledge but also involve a group of able contributors from amongst those available in the organization. It becomes totally necessary to create a team, which could over time, take over certain aspects of the management. Training a couple of good contributors does take time and effort, and it becomes a major task for a leader to constitute such a team. Invariably, in major projects, it becomes a major necessity to cater to the needs of the various sections of the administration – becoming a burden on the top management itself.

Technological Competence

With the advancements in science and technology, future leaders need to be tech-savvy, and also learning fast in the fields that they operate, become a dominating necessity and requirement to remain in the lead. While robots and AI coming into the field in a big way, sooner or later, most of the jobs currently are being done by humans may be replaced by robots and other gadgets! It therefore becomes imperative for a leader to gain access to such technologies before he becomes "extinct"!

Diplomatic Skills

Gone are the days when a leader (be he in the employ of an organization or is an entrepreneur himself) was ignorant of the happenings around him. With the growth of 'unionism' around the world, it befalls the lucky few to get along well with the crowd. Many a time, diplomacy plays a big role in maintaining a steady growth of business turnover, without any break in the production or sales of any commodity or product!

Marketing Skills

Another very important skill needed to hold on to a leadership role is the capacity of a leader to have one's ideas go through. Whether it is related to day-

to-day administrations, marketing of a product, or approaching a social media on business dealings, a leader should possess the capacity to project one's self or the idea. With the current day social media being very vibrant, it falls on the leader to convey to the public at large, the processes or the products that one's organization is about to introduce. Further addressing the media personally either directly or visually, needs a definite approach to have a good overall response! One should be in a position to decide the type of approach, the media to be selected, and also the content (developed personally or through a media consultant). Even obtaining customer feedback many a time helps in the process!

Conclusions

Leadership demands a multi-tasking, multi-skilled personality, capable of being endowed with abilities capable of managing an entire gamut of requirements. Some of the necessary skills needed are both personal and interpersonal. As a leader, one should possess total self-confidence and self-esteem and the ability to handle groups, combined with diplomacy and technical skills needed for that particular environment. One should be in a position to market himself, as well as the products or services the organization is to offer. Fluency in the technical language as well as a neat delivery is expected of such a person who is to lead! Most of the occurrences demanding a top-level decision take place mostly *in situ*, and a spontaneous answer is needed, many a time to save a situation the organization is in.

Acknowledgment

The Author is indebted to Er. ACS Arunkumar, President of Dr. MGR Educational & Research Institute for his continued support.

References

1. Michael, E., Porter (1998). Competitive Strategy {Techniques for Analyzing Industries and Competitors - With a New Introduction} The Free Press, 1998.
2. Ohio Education Department (2007). Partnership for 21st Century Skills Core Content Integration, One Massachusetts Avenue NW, Suite 700 Washington, DC20001, 202-312-6429, www.P21.org.
3. Rashain, Perera (2007). The PESTLE Analysis, Nerdynaut Publications, Ed. 2.0, Sept. 17.
4. Yu 'ksel, I (2012). Developing Multi-Criteria Decision Making Model for PESTEL Analysis, *International Journal of Business Management*, 7(24), p.52.
5. Khera, Shiv (2018). You Can Achieve More, Amazon. In <https://www.skillsyouneed.com> - Skills You Need - Helping You Develop Life Skills □

Human-centered Skills in a Tech-driven World: Soft Skills and Emotional Intelligence

Hema Raghavan*

Just when I sat before my computer to write this article, I received a serendipitous WhatsApp message on what is disruptive technology. I give below a few lines of the message:

When TV came to my house, I forgot how to read books

When the car came to my doorstep, I forgot how to walk

When I got the mobile, I forgot how to write letters

When the Computer came to my desk, I forgot my spellings

When AC came to my house, I stopped going for a fresh breeze

When Credit/debit cards came in my hand, I forgot the value of money

Lastly, when I got WhatsApp, I forgot how to talk.

Is that all? No, there cannot be ‘lastly’ as technology is our present temporal deity that daily incarnates itself anew. So as of today, the concluding line shall be

When AI came to my classroom, I forgot how to think

This is our world that runs on ever-changing technology. Yesterday’s technology is ‘passe’ today, today’s will be ‘passe’ tomorrow. It is increasingly difficult to cope with a changing world in a fast mode. With technology in the driver’s seat, we are driven at breakneck speed and we have slowly and surely forgotten all that had lofted us to the distinction of being at the top of the pyramid of all created beings—our ability to talk, read, walk, write and above all *to think*. The one other faculty, exclusive to humans and that has not so far been usurped by technology is *to feel*—which is only a matter of time before AI relieves us of that unique human response to situations.

The above peroration calls into question the current emphasis on skill learning in University education especially in the context of the ephemerality of yesterday’s technology countered

* Former Dean, University of Delhi, Block N, 12 C (Opposite Pushp Vihar) SFS, Apartments, Saket, New Delhi-110 017. E-mail: h.raghavan13@gmail.com

by today’s innovation of new technology that has built-in ephemeral irrelevance. To prioritize skill training in universities and in Academic Centres of Research and Learning for short-term gain is to deny young learners the true spirit of studentship that enables them to grow and evolve into wholesome human beings to cope with life’s challenges. *Skill training is not the same and should not be equated with academic learning*. Both have their rightful place but University is not and should not be the place for imparting hard skills as envisaged in many of the programmes under NEP. Hence the topic of discussion on Human centered skills is timely as the threat of AI usurping human cognitive potential has become a reality. All AI requires is just a tweak here or there for it to usurp the last vestige of human superiority – emotional intelligence. Hence the urgency to turn to developing human centric skills not in isolation, but built into academic learning.

The Idea of a University has moved far from its original concept articulated by Cardinal Newman, which at its core propounded cultivation of the mind as the aim and focus of University education. Cardinal Newman refers to the mind as an ‘*imperial intellect*’ to be trained. According to him, the perfection of the intellect, the enlargement of the mind to form a connected view or grasp of things, and the accumulation of knowledge, ‘informed and impregnated by reason’ enable the individual to grasp at things perceived by the senses, to analyze and reason and arrive at new ideas and fresh perspectives. All these can be labelled as improving and enhancing the human capacity to think.

Present Focus on Hard Skills and Its Drawbacks

The inexorable march of change that is a part of existence does not spare Higher education and that change is now manifest in equating the cultivation of intellect with the cultivation of skills for employability. One of the justifications for placing undue emphasis on hard skills is that they equip students with sufficient skills to get employment after graduation. In other words, university education is programmed to suit the demands of the industry. The multiple new courses related to skill training such as Ability Enhancement Courses, Skill Enhancement

Courses, and Vocational training Courses are the toast of the NEP and the curricula are designed not by academic scholars but by the needs of industry. The students are led blindfolded to the leviathan called industry and like the six blind men and the elephant, they are given perspective awareness to see one part of the elephant as the absolute truth without having a holistic knowledge of the elephant. The focus is on learning technical skills to perform job-specific tasks. *The lacuna in learning can be filled if higher education shifts the focus from hard skills (in particular the ever-changing skills in digital technology) to human-centric skills alongside academic learning.*

Those at the helm of the University have been asked by the UGC to develop courses even if this means reducing academic courses or packing a five-lecture course per week to three for discipline-specific courses to free the timetable to accommodate the newly christened 'academic' courses like AEC, CEC, and VTC. Since every student has to take one or two of these courses for credits, they (numbering almost one hundred or hundred+) are packed like sardines in a tin in a classroom that can at a stretch accommodate only 35-40 students, sitting cheek by jowl. The second question is are our teachers sufficiently equipped to handle skill training courses? For credits, students have to have requisite attendance and clear the practical exam which is preceded by a written test simpler than a KBC preliminary questionnaire to qualify for the interview with the Big B. The students' assessment is 20 for Continuous assessment (I doff my hat to the teachers who continuously assess 100 plus students), 10 for written, and 10 for viva (where for a class of 100 students, a group of ten sit together to take the viva). Credits garnered are 2. For this farce, the students are expected to sit through till late in the evening. The classes are stretched from 9 to 5:30 to fulfill all the criteria that the University has laid out. The untrained teacher to impart skills is often not seen and not even heard as s/he is blanked out by the 100-odd students spilling out of the small classroom over to the corridors. It is often said the mighty God walks unseen, unheard by the lonely traveler through his journey. Our students go through the skill training classes to get 2 credits by the benign grace of a teacher, unseen and unheard. Neither the student nor the teacher has time for self-study and research. It is time University education changes to a system that

focuses on quality and not quantity keeping in mind Schumacher's theory of Small is Beautiful.

An important added dimension to Newman's focus on the cultivation of the mind is to focus on the development of the four major quotients that describe the characteristics of an individual ---the IQ, the EQ (Emotional Quotient /Intelligence), the SQ (Social Quotient) and the AQ (Adaptable quotient). It is here the shift towards human-centric skills has to be in focus.

Soft skills training is training that focuses on the development of abilities such as communication, teamwork, and problem-solving as opposed to hard skills which focus on an employee's technical ability for a specific task. Other soft skills include emotional intelligence, a positive attitude, and taking the initiative. Soft skills are non-technical skills that can easily be built into academic courses and become an integral part of the courses. Unlike hard skills, like data analytics or programming skills they do not require special periods for instruction and training. They can dovetail nicely with academic studies as they are more often than not based on understanding the theories and experiencing them in a classroom.

The importance of soft skills as a part of the academic rigour can be best understood if we address the following questions: Why do students go to the Universities? What do they expect from the University? Is employment the only reason for attending a university? In which case they can as well go to vocational colleges or vocational training centres. Students do want a degree as it serves as a passport to employment. But the truth of the matter is the three-year first degree course (and extended to four years to get a Honours degree) does not make them jobworthy as the skills imparted are elementary and beyond the knowledge of the teaching faculty. What is significant about university education--- the last tier of academic learning is that it is meant to promote Critical Thinking Skills, whereby students learn to be self-reflexive--- to understand, to question, to reflect, and analyze different viewpoints and arrive at their perspectives. The introduction of Humanities and Social Sciences in IIT courses enables the students to connect their subject learning to the needs of the communities--- both local and global to solve civic, economic, and social challenges. Unlike the training in hard skills which is a standalone training with no academic outreach, the human-centric skills address societal issues and

promote civic engagement. The professor does not just teach a subject but extends it to relate the subject to the social and economic, issues that finally link to the larger purpose of learning to live.

Let me illustrate it for a first degree (Bachelor of Arts/Hons) course from my personal experience. As a teacher of English Literature, I was handling post-modern drama. It will be difficult for young Indian students to grasp the nihilistic overtone in the post-war period. Most of them have no clue about the vengeful brutality of the Nazis and the atomic holocaust that killed between 129,000 and 226,000 people in Japan. The twin massacres had brought about a change in Western minds about the idea of God and the relevance of religion founded on sin-punishment and virtue-reward syndromes. This demanded a good understanding of the history of the two World wars, the economic and social turbulence they had on millions of ordinary citizens, the psychological working of tyrannical minds like those of Hitler and Mussolini, the rise of existential philosophy as a counter to the earlier essential philosophy that *acknowledges the primacy of Essence* or God and the adverse effects of new technology to bring about a dystopian world. Here the teaching of Literature extends to History, Sociology, Economics, and Philosophy. The study of literature is the source and essence of a truly humanizing culture. The four major quotients- the IQ, the EQ (Emotional Quotient /Intelligence), the SQ (Social Quotient), and the AQ(Adaptable quotient) are promoted through academic studies.

Another example I again present from my personal experience is my stint at teaching students of Journalism run by a well-established Institute specializing in Print Journalism. They gave me a free hand to devise my course. I realized that to be a journalist, it is not enough to know the use of language and the basics of Journalism, but one must have a good understanding of different fields of knowledge that a newspaper covers every day -including Politics, Economics, Social sciences, Sciences, Art and literature, Environment and Sports. So, I devised a course of the Great Book series, and from each discipline, I selected two seminal books for lectures and discussions. The exchange of ideas, debates, and discussions we had in the class helped them get a peep into a whole new world of knowledge. University teaching should enlist cooperative teaching to make the courses interesting and informative. The human element in these discussions, the art of communication,

and teamwork for the presentation of papers, besides the four quotients that make an individual a wholesome human being were the immediate gains of this course. University education has to give more time for self-study to enable students to read, interact with fellow students, seek mentoring from their professors, and develop their critical skills.

The new generation cannot be turned into robots at work, but it has to develop a sense of human-centeredness. Through written assignments, seminar presentations, discussions exchange of ideas that form the major component of higher education, they end up with a wonderful skill that confers on them the true spirit of studentship. University education enables students to discover themselves who they are, what their responsibilities are, and what they are passionate about pursuing in life. It provides an opportunity to grow as individuals, expand their mental horizon, learn time management, inculcate self-discipline and in addition, from extra-curricular activities, learn arts, sports, and more that help them personally in life and to connect with others.

All first-year students should be provided hostel accommodation that will help them overcome inhibition and self-consciousness, learn the art of interaction with diverse people from different cultures, take part in all events outside the class hours, and realize the worth and value of cultivating humanity.

Instead of aping the West to learn technological skills, let graduate students learn human-centric skills. When I asked a student studying in Cambridge for his Mathematical Tripos about the value of that degree for employment, he said that if one has secured admission to a reasonably good university and graduates with a reasonably good grade, s/he can be trained by any employer as per the latter's requirement as the young graduate has already shown the potential to learn and absorb.

Our universities should shift their focus from quantity to quality, from hard skills to human-centric skills, and give adequate time to graduate students for self-learning and opportunities to develop and hone their critical skills. If we are to be world-class universities, let us not get that label for the number of admissions or sustainability, but for the quality of graduates emerging as fulsome robust beings.

□

Man, Mind, and the Matter of Professional Meaning

Anando Dutta*

Times are changing, we are changing. Nature and instincts of human beings are changing; our impulses are different, and our responses have become more immediate, compulsive, direct, unabashed, uninhibited, not in keeping with tradition, and almost rebellious. Our culture is transitional. We're going back and forth in time trying to find some axis that gives us our sense of identity, our feeling of community as social standing, and our feeling of being an individual as a part of our family.

About us, Learnsumerists*

Learnsumerism is a coinage to discuss the knowledge access system of learning in the motivated and discretionary world of consumers. Learnsumer is the student and learnsumerist is every stakeholder engaged in the process.*

The address is not necessarily physical. Nothing absolute about it. We also exist in a cloud - how abstract and poetic that sounds. Our roots and rootedness are unnecessary. Anchorage is passe. We don't have to be in one place necessarily, or in two places to subsist and sustain our professional and personal purposes. We do not owe loyalty to any geography, urban, or industrial landscape. Privileges of a good life come to us, chase us, almost stalk us endlessly. We could choose to travel to work, travel overseas for work, or keep traveling back and forth to work. Or optionally, we can put our feet up, and do what we do best without restraints. As an implication, we can be anywhere, to achieve anything at any point in time. Delivery is the transaction, being there, isn't.

This is the age of impermanence. This is the age of impatience. We don't wait for anyone or anything. What must happen, should, instantly happen. The human condition is at several crossroads - on the one hand, there is trust. No one entirely relies on the other completely, individually, as communities, as societies, or as nations. Skepticism and cynical assumptions have crept in amongst us. Being reliable is almost surprising and rare. The natural deliberate discourse of the obvious and the acceptance of trueness is

**Dean (Academics), School of Design and Innovation, Atlas Skilltech University, Mumbai-400070 (Maharashtra). E-mail: anando@isdi.in*

uncommon. Almost every decision ends with a certain question, inevitably - are we absolutely sure? Sadly.

Secondly, human capability and requisite skills are transforming as well. We are long past gone from the times, when a classic piece of work needed time, skill, and most importantly patience, dedication, and diligence. The paucity of patience, and turnaround time of all expectations, in the home and the marketplace has compromised the very essence and skill that contributed to quality and, therefore excellence. Can we get it all back? Most. Do we want to? This is our burning question.

The Matter of Learning Contexts

On the other, there's belief - social and cultural, spiritual and religious, factual and mythical. There are so many ways that our belief systems have breached our individual mind space. The variety itself has a counter-argument embedded in it. Our intuitions and instincts are coloured. There are no guarantees to lean on, as all signposts keep changing. Let's try and understand our domain in these altering realities in which our education systems are a part of our consumption fabric. Our learnsumers are as suspended in this warp and fluidity of transience, as we are. Our answers may not be their answers, but their questions are likely to be our questions as well. This queer intermingling of conflicting opinions is what is making our academic culture a vibrant place. Yes, acknowledging the opinions of others is inelastic and uncompromising most times - but on the flip side - contrary perspectives exist, and are being formed in our classroom conversations.

Our actions are of immense significance. As mentors, today, and every day is our opportunity to make these interactions come alive with questions without answers. This is a responsibility we carry through. When our learnsumer step over the threshold into the professional world, they will bear the burden of the same responsibility - of asking questions without answers. *One hopes we will be able to create end-term examinations in which we would merit students on how many questions they asked and not on how many answers were solved.*

Another player in the education space that is evolving far too rapidly to grasp, is technology. It has

been in a state of flux attempting to define its place in the industry - in a race in which no one knows who's trying to stay ahead of whom. For the learner with flitting focus, this variety of available opportunities is a playground. They're pitting one against the other - in terms of the performance capabilities of each tech, prices of paid-tech versus open-source-tech as well as the potential of every tech to exist and fulfil their assignments and goals in the future. Finally, in the eyes of a student today, no tech is indispensable. (we know there will be corporations who'd argue otherwise)

And the Mind

In amongst all of this - emotional intelligence is looking for its own identity in this milieu. Personal stress, distress, and anxiety are brimming as much as enthusiasm, boisterousness, and fun. Individual spaces are fraught with a maze of uncertainty. Levels of threshold are delicate. Students' need for support and emotional sustenance is widespread. Vagaries of mental balance are influencing the uneven acquisition of information and, therefore learning. This is a social issue and not a local one, similar stories are emerging from across institutions the world over.

Herein lies our challenge as well as our opportunity. Could we use this hi-strung sensitivity as a capability to find solutions for extreme care and risk in their design solutions? Could we help their internal strife by finding common links to empathize, reach out, and connect? Could shared experiences help heal and bring solace and comfort? Could these bridges build lifelong support for further inquiry and design to demonstrate how capacities can be created within errant, complicated capacities?

One other aspect stands out from this inconvenient, unsettling emotional status - spontaneity. The convergence of research data personalised seeking out of challenging circumstances or opportunities, granularity in analysis, and all the complexities of design iteration can find a fulfilling resolution in imagination borne in chaos. It just 'pops' up, out of the ambiguity. The drama of this falling into place is at times magical. Instinct and intuition find appropriateness and optimum momentary 'light' to achieve by design. The conundrum itself finds the relevant assembly of definitive players to perform for the 'wow' moment. Emotional intelligence rises to mark its rainbow - with a mind of its very own.

What is Our Anchor?

To add to the uncertainty of being certain, knowledge is changing as well. There are several perspectives to truth, to physicality, to incidences, even theology. Every lens offers a different view, the focus changes depending on who is looking through the eyepiece. And the views could be contrasting, and argumentative and present a range of the unusual and unexpected. This implies, that in the mesh of many shifting plates there are constants - not tangible constants - but of skills. What we impart contributes to their ability to connect dots, link concepts, cross reference, and build alternate arguments. This is a process, a method, this is an approach, and an individual nature of arriving at resolutions, options, and solutions. The approach is all we can arm them with. It is the fundamental resource vital to their survival, and will probably define their professional acumen and pedigree.

Which Shore are We Sailing To?

The twist is, we don't really know where we are headed. Truths, realities, relationships, and responsiveness will change. Nature and animals, elements and weather, our environments and people will as well. Speculatively speaking, we are looking at a crystal ball - which could be full of hope, or conspiracy and intrigue, annihilation and doomsday, or perhaps some other state of suspended animation. We will know when it is time, but till then our call as mentors is to create engagements with our mentees on every eventuality, deconstruct and reconfigure, to make life worthy and living better. Their 'approach' again, will be the key.

Where Will the Hull be Made?

The rudder is our imagination as students of changemaking and design. If we can find the best route and not the shortest route, we will sail along nicely. If the journey has experiences of wonder and discovery, it will be joyous and enriching. If we make the time we spend together dreaming of significant events, moments that might influence our lives, our learners will be empowered to take on headwinds.

How Will the Weather Hold?

One can realistically assume nothing will be easy, or simple, or evitable and predictable, a walk in the park. The odds will always be hurdles and

(contd. on pg. 87)

Empowering Minds: Focusing the Curriculum on Nurturing Soft Skills in a Technology-driven Era

J John Sekar*

The primary goal of higher education extends beyond the mere production of graduates equipped with the necessary hard skills for career advancement. It aims to cultivate well-rounded individuals who can contribute to society. This necessitates the development of soft skills, including emotional intelligence. Despite residing in a technology-driven era, our existence revolves around human connections—with and for our fellow human beings. The advancement of a nation is gauged not solely by technological advancements but by the growth, happiness, and social harmony of its people. In this context, effective communication and emotional intelligence are pivotal. Technocrats and bureaucrats cannot truly serve the welfare of the common people unless they establish and maintain genuine communicative and emotional connections with them. This contemplative opinion article delves into the significance of soft skills, particularly emotional intelligence, and its role in higher education, encompassing the perspectives of both teachers and students.

Higher education is the linchpin of the “knowledge industry” and is the pivotal institution with the potential to influence and guide our technocratic society. By shaping the minds and skills of future leaders in government and business, it holds a key role in determining the direction and impact of those who lead and serve us. (Muller, 1968) Despite the myriad wonders brought forth by modern technology, language persists as the most extraordinary tool ever crafted by humanity. The efficiency and rationality guiding contemporary technology are built upon machines that demand clear and precise communication. In the 21st century, our society is diligently honing the skills of our workforce in what is now technically termed “communication skills,” a designation that encompasses the traditional arts of speaking and writing.

Moreover, humans are not solely composed of cognitive intelligence; emotional intelligence is also an integral aspect of their makeup. Machines lack emotional intelligence, but the humans who create and

* Former Head and Associate Professor, Research Department of English and Former Dean, Academic Policies and Administration, The American College Madurai – 625 002. Email: jjohnsekar@gmail.com

govern these machines are inherently guided by it. In our technology-dominated era, the pervasive impact of technology on various facets of contemporary society is undeniable. Higher education institutions must, therefore, not simply focus on cultivating graduates with robust hard skills; they must also prioritize the development of soft skills and emotional intelligence. Neglecting this holistic approach could lead to detrimental consequences in the tech-driven world, a scenario that must be diligently avoided.

Living in a world heavily influenced by technology requires individuals to possess a well-rounded character. While technical proficiency is crucial, it is equally important for graduates to be equipped with soft skills and emotional intelligence. This multifaceted skill set is essential for navigating the complexities of the human world, where values such as social justice, prosperity for all, peace, and honesty hold paramount significance for the well-being of present and future generations.

Research Design

This article aims to provide a reflective opinion on the imperative integration of soft skills, specifically emotional intelligence. The insights presented are informed by a wealth of experience spanning over three and a half decades, encompassing roles as a teacher, head of the department, and dean of academic policies and administration.

Axiom

Wisdom is derived from life experiences, offering invaluable lessons for future generations, and it is from these experiences that we should consider implementing changes. The inclination to maintain the status quo can hinder progress, but forward momentum is achieved through proactive thinking and reflection. The synergy of soft skills alongside hard skills is essential, as the absence of either poses a potential threat to humanity.

Research Questions

The following comprehensive research inquiries served as the foundation for the present reflections:

1. What defines our society as a technology-driven world?

2. How do we interpret the concept of soft skills?
3. To what degree do soft skills and hard skills complement each other?
4. Why is emotional intelligence distinguished from soft skills?
5. What is the purpose of higher education in instilling soft skills?
6. How would society be impacted in the absence of integration of these skills?
7. What roles do teachers and students play in relation to the acquisition of soft skills?

Discussion

It is imperative to recognize that humans cannot exist solely in the realm of technology; they must also embody the qualities that define humanity. Ultimately, individuals are the arbiters of technology, wielding the power to shape the present and future well-being of humanity. As we propel further into the technological age, fostering a harmonious balance between technological prowess and human values becomes *not just a choice but a responsibility*.

Characterisation of Tech-driven Society

Technology is now pervasive in our daily lives. Smartphones, computers, tablets, and other devices are integral to communication, work, education, and entertainment. The widespread adoption of technology has made it an essential part of modern living. Many industries and sectors have undergone a digital transformation. The tech industry has become a major driver of economic growth. Companies in the technology sector often have a significant impact on stock markets and contribute significantly to GDP in many countries. From healthcare to finance to manufacturing, organizations are integrating technology to improve efficiency, productivity, and innovation. Technology has led to significant advancements in healthcare, from electronic medical records to telemedicine. Medical research and treatment options have benefited from technological innovations.

Moreover, the advent of big data and advanced analytics has transformed the way businesses operate. The ability to collect, analyse, and derive insights from vast amounts of data has become a crucial factor in decision-making and strategy. The tech industry is known for its rapid innovation and disruptive technologies. New inventions and advancements, such as artificial intelligence, blockchain, and the Internet of

Things (IoT), have the potential to reshape industries and societies. Automation technologies, driven by advancements in robotics and artificial intelligence, are changing the nature of work. Tasks that were once performed by humans are now automated, leading to shifts in employment patterns and skill requirements.

The internet has facilitated unprecedented global connectivity. People can communicate, share information, and conduct business across borders with ease. This interconnectedness has transformed the way we interact, work, and collaborate. Very interestingly and inevitably, social media platforms have become powerful tools for communication, information sharing, and social interaction. These platforms have a profound impact on public discourse, activism, and the dissemination of news and information. Technology has revolutionized the way we access information and learn. Online education platforms, digital resources, and e-learning tools have made education more accessible to people around the world. Thus, the characterization of the current era as a tech-driven world reflects the pervasive and transformative impact of technology on various aspects of our lives, from communication and work to healthcare and education.

Perception of Soft Skills

Soft skills refer to a set of personal attributes, interpersonal skills, and communication abilities that enhance an individual's interactions, job performance, and career prospects. Unlike hard or technical skills, which are specific, teachable abilities related to a particular job or task, soft skills are often more general and can be applied in a variety of situations. They are called "soft" to distinguish them from "hard" or technical skills, which are typically easier to quantify and measure. Psychologists use the term to describe someone's emotional intelligence quotient (EQ). Soft skills include a wide range of attributes, and some of the most commonly recognized ones include:

1. The *ability to express* ideas clearly, listen actively, and convey information effectively.
2. The *ability to work well with others*, in other words, collaborative skills, contribute to group efforts and navigate interpersonal dynamics.
3. The *capacity to adapt* to new situations, be flexible in the face of change, and learn quickly.
4. Critical thinking and analytical skills to *identify and solve problems*.
5. The ability to *think creatively*, generate new ideas, and approach tasks with innovation.

6. Efficiently *managing* one's time and *prioritizing* tasks to meet deadlines and achieve goals.
7. The *ability to inspire* and guide others, take initiative, and make decisions.
8. Being aware of and *managing one's own emotions*, as well as understanding and *empathizing* with the emotions of others.
9. The *ability* to address and *resolve conflicts* constructively.
10. *Building and maintaining* professional relationships, both within and outside of one's organization.

Therefore, soft skills are crucial in the workplace to complement technical skills and to contribute to a well-rounded and effective professional. They are often considered essential for career success, as individuals with strong soft skills tend to be better at working with others, adapting to new situations, and navigating the complexities of the modern workplace.

Complementarity of Soft and Hard Skills

In a competitive job market, individuals showcasing a well-balanced blend of both hard and soft skills frequently find themselves in higher demand for their services. While technical skills may vary significantly between different professions, soft skills are often *transferable and valuable* in almost any career. Employers increasingly recognize the importance of soft skills in hiring decisions and team dynamics as individuals with strong soft skills are often better equipped to collaborate, communicate, and thrive in diverse and dynamic work environments. Therefore, soft skills and hard skills are complementary elements of a well-rounded skill set, and both play crucial roles in personal and professional success.

Soft skills *enhance the effectiveness* of hard skills. For example, effective communication is essential for presenting technical information to a non-technical audience. The combination of strong hard and soft skills results in a more well-rounded and competent professional. Technical proficiency alone may not be sufficient if an individual lacks the ability to communicate, collaborate, or adapt to different situations.

Soft skills are *critical for effective teamwork* and collaboration. In a workplace setting, individuals need not only technical expertise but also the ability to work well with others, communicate ideas, and contribute to a positive team environment. While hard

skills may secure a job, soft skills often *determine an individual's success* in leadership and managerial roles. Leaders need to motivate, communicate, and guide their teams effectively. In a competitive job market, strong soft skills can set candidates apart. Many candidates may possess similar hard skills, but those with superior soft skills may be more likely to be hired and promoted.

As job roles evolve and industries undergo changes, adaptability (a soft skill) becomes crucial. Individuals with strong soft skills can more readily adapt to new technologies, methodologies, and work environments. Again, soft skills *act as a bridge* between individuals with different hard skill sets. Effective communication and collaboration are essential when working in interdisciplinary teams where professionals with diverse technical backgrounds come together.

Project success often depends not only on the technical expertise of team members (hard skills) but also on their *ability to coordinate, communicate, and solve problems collaboratively* (soft skills). In client-facing roles, strong soft skills contribute to client satisfaction. Even if a professional has top-notch technical abilities, the ability to understand and address client needs, communicate effectively, and build rapport is crucial.

Therefore, while hard skills provide the technical expertise necessary for *a specific job*, soft skills facilitate the application of those skills in *a broader context*. A combination of both hard and soft skills is typically sought after by employers since it contributes to a well-rounded, adaptable, and effective workforce. Successful professionals understand the importance of developing and balancing both types of skills throughout their careers.

Emotional Intelligence

Emotional intelligence (EI or EQ) is the ability to recognize, understand, manage, and effectively use one's own emotions and those of others. According to Matthews et al., (2017), and Feldman & Mulle (2009), emotional intelligence is characterized as an individual's capacity to judiciously utilize their emotions to enhance performance and facilitate effective communication with others. In alignment with Akinboye (2003), it is additionally defined as the proficiency in regulating processes of perception, intuition, and thought guided by emotions. In a tech-driven world, where technological advancements and automation are prevalent, the need for emotional intelligence is still significant.

Goleman (1995) outlines five dimensions of emotional intelligence, which include emotional management, self-awareness, self-motivation, empathy, and social skills. Emotional management involves the capability of individuals to efficiently handle emotions, enabling them to perform tasks more smoothly and swiftly than their counterparts. Maintaining emotional balance requires a conscientious and judicious approach to organizing one's life. Individuals who exhibit ease in task performance are those proficient in emotional control. The ability to manage stress effectively is considered a form of healthy self-control during challenging situations (John, 2010). For employees, possessing self-control contributes to enhanced effectiveness and productivity, fostering an environment built on mutual trust (Aziz, 2008).

Self-awareness is the capacity to comprehend one's own emotions in a given situation and make sound decisions. When we have a clear self-perception, our confidence and creativity are heightened. While discussing the two types of self-awareness, Eurich (2018) concludes: "Leaders who focus on building both internal and external Individuals possessing self-awareness... reap the many rewards that increased self-knowledge delivers." Self-motivation, as described by Crede and Kuncel (2008), is an integral aspect of personal skills. A person who actively involves themselves in a task has effectively internalized the concept of self-motivation. The pursuit of desired goals necessitates the presence of self-motivation. Further, the accumulation of experience contributes to the development of self-efficacy. Empathy is the ability to comprehend one's own emotions and the emotions of others (Adreasson, 2010; Wuryanano, 2007). Finally, in Goleman's model, social skills constitute an integral component of emotional intelligence. It involves the capacity to engage with one another and enhance interpersonal relationships. Individuals possessing communication skills can effectively express messages and engage in open listening.

The Need for Emotional Intelligence

Here are some significant reasons for emphasis on emotional intelligence in the context of a tech-driven world. Tech projects often require collaboration among diverse teams with different skill sets. Emotional intelligence [EI] enables individuals to work effectively with colleagues, understand their perspectives, and navigate interpersonal dynamics for successful teamwork. Despite the emphasis on

technical skills, effective *communication* remains essential. EI enhances communication by helping individuals convey their ideas clearly, listen actively, and interpret the emotions of others, fostering a more collaborative and positive work environment.

In leadership roles within the tech industry, emotional intelligence is crucial. Leaders with high EI can inspire and motivate their teams, make decisions that consider the well-being of their employees, and navigate challenges with empathy and resilience. Moreover, the tech landscape is dynamic and constantly evolving. Individuals with high emotional intelligence are more adaptable to change, resilient in the face of challenges, and better equipped to navigate uncertainty, which is prevalent in the fast-paced tech industry.

In addition, emotional intelligence contributes to effective problem-solving and decision-making. It allows individuals to *approach challenges with a clear and rational mind*, manage stress, and consider the emotional implications of decisions on themselves and others. Professionals often interact with clients, users, or customers. Emotional intelligence helps in understanding and meeting the needs of these stakeholders, managing conflicts diplomatically, and building positive relationships that can contribute to business success.

Emotional intelligence fosters a positive and inclusive work culture that encourages innovation and creativity. Individuals who feel supported and valued are more likely to share ideas, take risks, and contribute to a culture of continuous improvement. High levels of EI in leaders and colleagues contribute to a supportive work environment. This, in turn, can enhance employee well-being, job satisfaction, and retention, which are crucial factors in the competitive tech industry.

Finally, as technology continues to advance, ethical considerations become increasingly important. Emotional intelligence helps individuals recognize the ethical implications of their work, make decisions with integrity, and consider the broader impact on society. EI is also valuable in designing tech products that resonate with users on an emotional level. Understanding user needs, preferences, and emotional responses can lead to the creation of more user-friendly and appealing products. As technology continues to reshape industries, the human element—marked by emotional intelligence—remains critical for success.

Role of Higher Education in Inculcation of Soft Skills

The implications of soft skills and emotional intelligence in a tech-driven world for higher education are significant. As the demands of the workforce evolve with technological advancements, higher education institutions need to adapt their curricula and teaching approaches to ensure that students are well-prepared for the challenges of the modern workplace.

Higher education institutions should integrate soft skills development and emotional intelligence training into their curricula. This can involve incorporating courses or modules that specifically focus on communication, teamwork, adaptability, and emotional intelligence. This requires an *interdisciplinary approach*. Tech-driven industries often require collaboration across disciplines. Higher education programs should promote interdisciplinary learning experiences that expose students to a variety of perspectives and skills, fostering adaptability and effective teamwork.

Practical, *hands-on experiences* should be integrated into the education process. This includes internships, projects, or case studies that simulate real-world work scenarios and require the application of both technical skills and soft skills. Higher education institutions should emphasize *communication training*, including written and oral communication, presentation skills, and the ability to convey complex technical information to diverse audiences.

Programmes that develop *leadership skills*, including emotional intelligence, are essential. Leadership in the tech industry requires not only technical expertise but also the ability to inspire and guide teams, make ethical decisions, and navigate the challenges of a rapidly changing environment. Soft skills such as critical thinking and problem-solving are vital in tech-driven careers. Higher education should emphasize the development of *analytical thinking, creativity*, and the ability to approach challenges with a solution-oriented mindset.

Education institutions should foster *inclusive environments* that encourage diversity and recognize the importance of emotional intelligence in understanding and appreciating different perspectives. This prepares students for working in diverse and multicultural tech teams. While emphasizing soft skills, higher education institutions should also *integrate technology* effectively into the learning

process. This not only prepares students for a tech-driven workplace but also allows them to develop skills in using technology for collaboration, research, and problem-solving.

Finally, education programmes should instil a mindset of *continuous learning and adaptability*. Given the pace of technological change, graduates need to be prepared to update their technical skills and adapt to new tools and methodologies throughout their careers. Higher education institutions should also provide *support services* that address the mental health and emotional well-being of students. This support is crucial for resilience and success in both academic and professional settings.

Speculative Instances of Adverse Outcomes

If higher education produces graduates who excel in hard skills but lack soft skills and emotional intelligence, there could be several negative consequences in a tech-driven world. Various speculative examples can be envisioned. One, a software development team consists of brilliant programmers who excel in coding but struggle to *communicate effectively and collaborate*. The lack of soft skills leads to misunderstandings, miscommunication, and a breakdown in teamwork. The result is delayed projects, increased errors, and a tense work environment. Two, a team of engineers creates a cutting-edge technology product with advanced features, but they lack the *ability to understand and address user needs*. The product may be technically impressive, but if it does not resonate with users on an emotional level or provide a positive user experience, it may not gain widespread acceptance in the market.

Three, a tech company promotes a highly skilled engineer to a leadership position without assessing their *leadership and interpersonal skills*. The leader may struggle to inspire and motivate the team, make decisions that consider the well-being of team members, and effectively communicate the company's vision. Fourth, a research and development team focuses solely on technical advancements without fostering a culture of *creativity and innovation*. The lack of soft skills, such as the ability to think creatively and collaborate on ideas, hinders the team's ability to generate novel solutions and stay competitive in the rapidly evolving tech landscape.

Five, a tech company hires top graduates with strong technical skills but neglects the importance of a positive work culture. The lack of *emotional intelligence and soft skills* contributes to a toxic work

environment, leading to high employee turnover and low job satisfaction. Six, a group of data scientists develops a sophisticated algorithm without considering the ethical implications of its use. The algorithm may inadvertently perpetuate biases or violate privacy rights, highlighting the importance of *ethical decision-making* and considering the broader societal impact of technological advancements.

Seven, a project manager with excellent technical skills fails to effectively communicate project updates to non-technical stakeholders, such as clients or executives. The lack of soft skills in *conveying complex technical information in a clear and understandable manner* can lead to misunderstandings and dissatisfaction among stakeholders. Eight, a company introduces a new technology infrastructure to improve efficiency, but employees *resist the change* because of a lack of adaptability and communication from leadership. The absence of emotional intelligence results in a workforce that struggles to embrace technological advancements.

In a tech-driven world, success, therefore, often depends not only on technical expertise but also on the ability to navigate the human aspects of the workplace. Graduates who lack these soft skills and emotional intelligence may find it challenging to thrive in dynamic and people-centric tech environments, potentially hindering the success of both individuals and the organizations they work for.

Role and Responsibilities of Teachers and Students

Teachers and students share a collaborative relationship within the educational environment, and each party has specific responsibilities. Teachers' responsibilities include:

1. Designing and implementing instructional materials and activities that stimulate students' interest and engagement.
2. Recognizing diverse learning styles and adjusting teaching methods to accommodate the needs of different students.
3. Communicate the goals and expectations for each lesson or course, outlining what students should know or be able to do.
4. Fostering an inclusive and respectful environment where all students feel welcome and valued.
5. Establishing and maintaining a positive classroom atmosphere conducive to learning.

6. Developing fair and transparent assessment methods that accurately measure student understanding.
7. Providing constructive feedback on assignments and assessments promptly, highlighting areas for improvement.
8. Fostering critical thinking, problem-solving, and analytical skills.
9. Encouraging students to take responsibility for their learning and develop independent study habits.
10. Being aware of diverse student needs and providing necessary accommodations to ensure equitable access to education.
11. Demonstrating cultural competence and sensitivity to create an inclusive learning environment.
12. Keeping abreast of developments in the field and continuously seeking professional development opportunities to enhance teaching skills.
13. Establishing open lines of communication with students, addressing concerns, providing guidance, and offering support.

Nevertheless, students have reciprocal responsibilities and should be dedicated to their academic pursuits. They should:

1. actively participate in class discussions, activities, and assignments.
2. seek clarification when concepts are unclear and actively seek to deepen understanding.
3. attend classes prepared, having completed assigned readings or tasks.
4. manage time effectively to meet deadlines and balance academic and personal commitments.
5. treat peers, teachers, and staff with respect, fostering a positive and inclusive learning environment.
6. contribute positively to group projects and collaborations.
7. adhere to principles of academic integrity by avoiding plagiarism, cheating, or other forms of dishonesty.
8. submit original work that reflects personal understanding and effort.
9. use feedback from teachers to identify strengths and areas for improvement, actively working to enhance performance.
10. develop effective communication skills, including

the ability to articulate questions, concerns, or ideas clearly.

11. reach out to teachers when facing challenges or needing additional support.
12. advocate for personal needs or accommodations, communicating openly with teachers about challenges that may impact learning.
13. engage in reflective practices to understand personal learning styles, preferences, and areas for growth.

By recognizing and fulfilling these responsibilities, teachers and students contribute to a positive and effective learning environment. Open communication, mutual respect, and a shared commitment to learning enhance the educational experience for everyone involved.

Recommendations

Policymakers are encouraged to contemplate the following recommendations:

1. Integrate soft skills and emotional intelligence into the undergraduate curriculum.
2. Provide subject teachers with exposure to these skills through Orientation Programmes, Refresher Courses, and Faculty Development Programs (FDPs).
3. Foster an awareness among students that soft skills hold equal significance to hard skills in their professional lives.
4. Encourage teachers to conduct action research in the teaching of soft skills.
5. Ensure students receive project work, field experiences, and other hands-on activities each semester to enhance practical skills.

Conclusions

The imperative for integrating soft skills and emotional intelligence into the higher education curriculum is undeniable. As our society becomes increasingly interconnected and dynamic, nurturing well-rounded individuals equipped with not only technical expertise but also interpersonal finesse becomes crucial. The role of teachers in imparting these skills is paramount, serving as mentors who guide students toward holistic development. Simultaneously, students bear the responsibility of actively engaging in the learning process, recognizing

the value of soft skills in shaping their future success. The collaborative effort between educators and learners in fostering emotional intelligence and soft skills is not merely an academic pursuit; it is an investment in the cultivation of resilient, adaptable, and empathetic individuals poised to navigate the complexities of the modern world.

References

1. Aziz, A., Y. (2008). *Manage Change in the Organization*, Arah Publication.
2. Andreasson, P. Emotional Empathy, Facial Reactions and Facial Feedback. *Acta Universitatis Upsaliensis. Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Social Sciences* 58(52).
3. Bradley, J.,T. (2019). *Re-creating Nature: Science, Technology, and Human Values in the 21st Century*, The University of Alabama Press.
4. Crede, M. and Kuncel, N., R. (2008). Study Habits, Skills and Attitudes, *Journal of Psychological Science*, 3(6), 425-453.
5. Eurich, T. (2018). What self-awareness Really is (and how to cultivate it): It is Not Just about Introspection, *hbr.org/2018/01/what-self-awareness-really-is-and-how-to-cultivate-it*
6. Feldman, J., and Mulle, M. (2009). *Put Emotional Intelligence to Work; Equip Yourself for Success*. ASTD Press.
7. Goldman, D. (1995). *Emotional Intelligence*. Bantam.
8. *Harvard Business Review*. How to become a better listener, <https://hbr.org/2021/12/how-to-become-a-better-listner>."
9. Matthews, G., Zeidner, M., and Roberts, R. (2017). Emotional Intelligence, Health, and Stress. In (Eds.) Cary L. Cooper & James Campbell Quick, *The Handbook of Stress and Health: A Guide to Research and Practice*. (312-326) John Wiley.
10. Muller, H., J. (1968). *The Children of Frankenstein: A Primer on Modern Technology and Human Values*, Indiana University Press.
11. SHRM. Soft Skills Training also Requires Coaching, <https://www.shrm.org/resourcesandtools/employee-relations/humanity-into-hr/pages/soft-skills-training-aslo-requires-coaching.aspx>."
12. Wuryanano, (2007). *The 21 Principles to Build and Develop Fighting Spirit*. Gramedia.
13. Yale University, It's your Yale, *Developing Soft Skills*. <https://your.yale.edu/work-yale/learn-and-grow/training/clerical-technical-training-and-development/developing-soft-skills>." □

Crafting Sustainable Careers in a Dynamic Professional Terrain

Subhajit Panda* and Navkiran Kaur**

The study explores the essence of sustainable careers amidst an ever-evolving professional landscape. This paper delineates the distinguishing factors between sustainable and non-sustainable careers, presenting a comprehensive framework highlighting personal well-being, adaptability, growth opportunities, and societal impact as crucial components of sustainable careers. It underscores the significance of these elements for individuals, organizations, and society, emphasizing their implications and future trends. Strategies for promoting career sustainability are elucidated, including continuous learning, flexible work practices, ethical engagement, mentorship, and embracing diversity. Future considerations encompass upskilling for technological shifts, remote work models, sustainability, continuous learning, diversity initiatives, and mental health support. Embracing these elements not only navigates the dynamic terrain but also fosters enduring, fulfilling, and impactful professional journeys in an evolving world.

In an age defined by unprecedented shifts in technology, globalization, and societal expectations, the once linear trajectory of career paths has evolved into a complex and ever-changing professional landscape (Rinne, 2023). Amidst this dynamic terrain, the pursuit of sustainable careers has emerged as an imperative, transcending the traditional notion of professional success (Van der Heijden et al., 2020). This study embarks on a journey to unravel the intricacies of navigating this transformative landscape, where resilience, adaptability, and ethical engagement converge to redefine the essence of enduring professional fulfillment. In this paradigm, career sustainability transcends the boundaries of mere job security, emphasizing the fusion of personal well-being, continuous growth, and societal impact within the context of a rapidly evolving work environment. This paper delves into the multifaceted dimensions

of sustainable careers, charting a course towards longevity and purpose in an era marked by perpetual change and innovation.

Literature Review

This review amalgamates insights from ten pivotal studies, delving into various dimensions of sustainable career paradigms in contemporary professional literature. From conceptualizing and bridging skills gaps in vocational education to navigating challenges posed by remote work, these studies collectively provide a comprehensive perspective on the multifaceted nature of sustainable career trajectories.

Rapuano (2020) delved into the multidimensional nature of sustainable careers, emphasizing interconnected contexts, the evolving temporal dimension, and the role of lifelong learning, despite its lack of empirical data. Singh and Vanka (2020) critiqued conventional HRM approaches, proposing sustainable HRM practices tailored for women professionals' career sustainability across their lifespan, grounded in theoretical frameworks. Vos et al. (2020) clarified the definition and indicators of sustainable careers, advocating a systemic and dynamic perspective, proposing three dimensions (person, context, time) for analysis, and encouraging future empirical research. Rizwan et al. (2021) revealed the employability skills gap between vocational students and employers in developing countries, proposing a framework for skill enhancement to foster sustainable vocational careers. Also, McDonald et al. (2022) discussed remote work and sustainable careers, highlighting HRD's role in supporting remote workers, addressing challenges and advantages associated with virtual workspaces, and concluding with implications for HRD research in this evolving landscape.

From the latest studies, Bhayana et al. (2023) explored multiple job holders' strategies, revealing proactive time management, boundary negotiations, and enabling recovery experiences as pivotal in fostering sustainable careers. Curado et al. (2023) validated proxies—job satisfaction, well-being, and organizational citizenship behavior—demonstrating

* Assistant Librarian, Chandigarh University, Gharuan, Mohali (Punjab) and Researcher, Department of Library & Information Science, Punjabi University, Patiala (Punjab). E-mail: suvapanda007@gmail.com

**Assistant Professor, Department of Library & Information Science, Punjabi University, Patiala (Punjab). Email: navkiran1907@gmail.com

their association with sustainable careers among employees in a European energy company, contributing measures for future research and managerial decisions. Donald and Jackson (2023) emphasized collaborative research for sustainable career ecosystems, outlining sections addressing higher education, organizations, and the future of work, aiming for interdisciplinary approaches. Khanna and Dutta (2023) introduced an experimental project integrating the GROWTH coaching technique into career development, emphasizing career adaptability and sustainable careers, and offering insights into contemporary pedagogical methods. Schweitzer et al. (2023) delved into intrapersonal processes in constructing sustainable careers, emphasizing individuals' agency over time, and calling for support from educators, counselors, HR representatives, and organizations in this dynamic career journey.

These studies collectively contribute multifaceted perspectives and strategies toward understanding and fostering sustainable career development.

The Present Study

The main objectives of the study encompassing the different facets are:

- i) Provide an overview of the dynamic professional terrain to understand its evolution and impact on career trajectories.
- ii) Establish theoretical foundations of career sustainability by delineating its multidimensional aspects and significance.
- iii) Explore strategies for navigating the dynamic workplace, emphasizing adaptability and resilience for career longevity.
- iv) Investigate diverse strategies for crafting sustainable careers, encompassing personal, professional, and societal dimensions.
- v) Examine implications of sustainable careers for individuals, organizations, and society at large, considering their multifaceted impact.
- vi) Identify and delineate specific strategies aimed at promoting career sustainability within professional contexts.
- vii) Analyze future trends and considerations crucial in sustaining careers, considering evolving dynamics and potential challenges in the professional landscape.

Overview of the Dynamic Professional Terrain

The contemporary professional landscape is characterized by unprecedented dynamism, marked by rapid technological advancements, global interconnectedness, evolving market trends, and shifting societal expectations (Haferkamp & Smelser, 1992). This dynamic terrain presents a multifaceted environment that continuously challenges traditional notions of work and demands a high degree of adaptability and resilience from individuals pursuing careers within it (Craig, 2019).

Technological Advancement

The pervasive influence of technology has redefined industries across the spectrum. Automation, artificial intelligence, and digitalization have revolutionized business models, transforming the nature of work, and creating new opportunities while rendering certain job roles obsolete (Manyika & Sneider, 2018). The relentless pace of technological evolution necessitates continual upskilling and adaptability for professionals to remain relevant (Platinum Management, LLC, 2023).

Global Interconnectedness

The globalized nature of markets and industries has led to increased interconnectedness and interdependence (youmatter, 2020). Professionals now operate in a highly competitive and diverse global marketplace where cross-cultural understanding, remote work capabilities, and collaboration across borders are imperative skills.

Evolving Market Trends

Industries are subject to rapid and sometimes unpredictable shifts in market trends, consumer behavior, and economic forces (Reeves & Deimler, 2016). Professionals navigating this landscape must possess the agility to respond swiftly to market dynamics, pivot strategies, and innovate to stay competitive.

Changing Work Paradigms

Traditional work structures are evolving, with an increasing emphasis on flexibility, remote work, and the gig economy (The Investopedia Team, 2022). The boundaries between work and personal life are becoming more fluid, necessitating a reevaluation of conventional work practices and an emphasis on achieving work-life harmony (Kossek et al., 2021).

Social and Environmental Impact

Stakeholders, including employees, consumers, and investors, are placing greater importance on ethical and sustainable business practices. Professionals are expected to align their careers with values-driven organizations and contribute to initiatives addressing societal challenges, such as environmental sustainability and social responsibility (Anderson, 2020).

In navigating this dynamic professional terrain, individuals face both challenges and opportunities. Success in this environment requires a blend of adaptability, continuous learning, resilience, and a proactive approach to seizing emerging opportunities. Understanding and effectively maneuvering within this evolving landscape are crucial for crafting sustainable and fulfilling careers.

Theoretical Foundations of Career Sustainability

Conceptual Framework: Definition and Components of Sustainable Careers

Sustainable careers represent a paradigm shift in the conceptualization of professional success, transcending mere job stability or financial security (Stuer et al., 2019). They embody a holistic approach that emphasizes longevity, personal fulfillment, adaptability, and positive societal impact within a constantly evolving professional landscape.

The main components of sustainable careers are:

Personal Well-being: Personal well-being stands as the cornerstone of sustainable careers, encompassing an individual's physical, emotional, and mental health within their professional journey (Nimmi & Donald, 2022). It extends beyond conventional job satisfaction, emphasizing a harmonious balance between work responsibilities and personal life. Prioritizing well-being fosters resilience, enhances productivity, and cultivates a sense of fulfillment integral to sustaining a successful career.

Adaptability and Resilience: In the dynamic professional terrain, adaptability and resilience emerge as indispensable traits for career sustainability. Individuals equipped with adaptability skills readily embrace change, navigate uncertainties, and leverage emerging opportunities. Resilience empowers professionals to rebound from setbacks, learn from challenges, and evolve, ensuring continuous relevance

and agility in a rapidly evolving workplace ecosystem (Schweitzer et al., 2023).

Growth and Development: Sustainable careers thrive on a commitment to continuous growth and development. This component encapsulates a proactive approach to learning, acquiring new skills, and seeking diverse experiences. Embracing avenues for professional growth not only fuels individual advancement but also augments adaptability, fortifying the foundation for long-term career sustainability (Lawrence et al., 2015).

Societal Impact and Ethical Engagement: Sustainable careers extend their scope beyond individual success, emphasizing the broader impact of professional endeavors on society and the environment. Ethical engagement entails aligning career pursuits with values-driven actions that contribute positively to societal well-being (Sek-yum Ngai, et al., 2023). Professionals embracing ethical engagement seek to address societal challenges, champion sustainability, and foster a positive influence within their organizational and societal spheres.

The Interplay of Components in Sustaining Careers

The sustainability of a career is not solely reliant on individual components in isolation; rather, it thrives on the intricate interplay and synergy among these fundamental elements. The integration and harmonization of personal well-being, adaptability, growth, and societal impact form a dynamic ecosystem that sustains and propels a career trajectory forward.

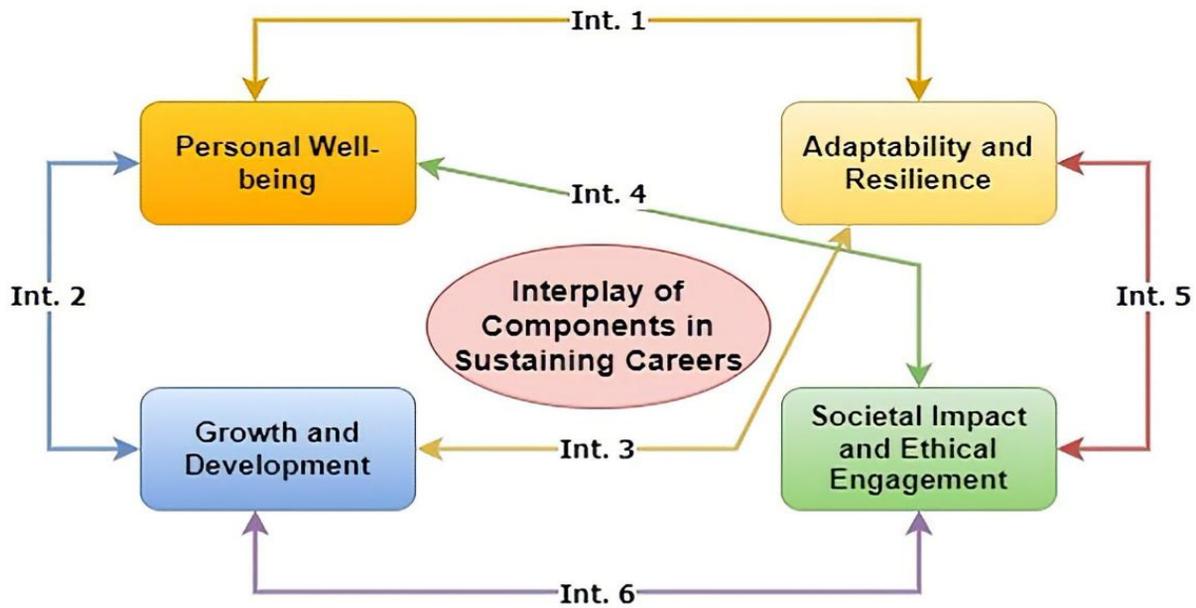
Int. 1: Between Personal Well-being and Adaptability and Resilience

The synergy between personal well-being and adaptability and resilience is crucial for sustaining careers in a dynamic professional landscape. Personal well-being provides stability, encompassing physical health and emotional resilience, while adaptability empowers individuals to confidently navigate change and uncertainty. Together, they create a reciprocal relationship where strong well-being enhances adaptability, and adaptability reinforces well-being, fostering resilience and continual growth essential for success in evolving careers.

Int. 2: Between Personal Well-being and Growth and Development

The interplay between sustaining career components—personal well-being and growth &

Figure 1: The Interplay of Components in Sustaining Careers



development—is crucial for enduring professional success. Personal well-being, encompassing mental and physical health, forms a stable foundation for pursuing growth initiatives. A strong sense of well-being fosters an environment conducive to continual learning and skill acquisition, propelling career development. This reciprocal relationship creates a symbiotic synergy essential for navigating challenges and embracing opportunities, ensuring sustained success in dynamic professional landscapes.

Int. 3: Between Adaptability and Resilience and Growth and Development

The synergy between sustaining career components—adaptability & resilience and growth & development—is vital for resilient career paths. Adaptability & resilience fuel growth by navigating uncertainties and fostering learning environments, while growth & development efforts, in turn, reinforce adaptability and facilitate skill expansion. This reciprocal relationship forms a dynamic foundation crucial for career sustainability, empowering individuals to navigate challenges, embrace learning opportunities, and ensure progress in their professional journeys.

Int. 4: Between Personal Well-being and Societal Impact and Ethical Engagement

The interplay between sustaining career components—personal well-being and societal impact & ethical engagement—is crucial for creating fulfilling

and socially responsible professional paths. Personal well-being serves as a catalyst, enabling individuals to engage meaningfully in ethical pursuits and contribute positively to society within their careers. This reciprocal relationship empowers professionals to align their career goals with ethical values, fostering a balanced approach that ensures personal fulfillment while making a meaningful impact on society through their professional endeavors.

Int. 5: Between Adaptability and Resilience and Societal Impact and Ethical Engagement

The interplay between sustaining career components—adaptability & resilience and societal impact & ethical engagement—is crucial for fostering resilient, socially conscious professional paths. Adaptability & resilience enable individuals to navigate challenges and drive positive change, fostering ethical engagement and societal contributions within careers. Simultaneously, societal impact & ethical engagement efforts are nurtured by an adaptability & resilience mindset, empowering professionals to address societal challenges and align their career pursuits with ethical values, ensuring enduring success while positively impacting society.

Int. 6: Between Growth and Development and Societal Impact and Ethical Engagement

The interplay between sustaining career components—growth & development and societal impact & ethical engagement—is crucial for shaping

progressive, socially responsible career paths. Growth & development initiatives equip individuals with the skills for societal impact, while societal impact efforts are fueled by personal and professional growth, empowering professionals to contribute meaningfully to society while aligning their careers with ethical values. This reciprocal relationship ensures ongoing personal and societal betterment, fostering a balanced and impactful approach within professional endeavors.

Recognizing the intricate interplay among personal well-being, adaptability, growth, societal impact, and ethical engagement is pivotal in cultivating and nurturing sustainable careers. A comprehensive understanding of their synergies empowers individuals to craft resilient, purpose-driven career trajectories

capable of thriving amidst the constant evolution of the professional landscape.

Distinguish Between Sustainable and Non-sustainable Careers

Distinguishing sustainable from non-sustainable careers involves assessing factors such as long-term viability, personal well-being, adaptability, societal impact, continuous development, and industry relevance (Vos, et. al., 2020).

Navigating the Dynamic Workplace

Navigating the dynamic workplace necessitates a keen understanding of the shifting professional landscape, embracing the challenges as opportunities, and effectively leveraging technological advancements.

Table 1: Distinguishing Sustainable from Non-sustainable Careers

| S.N. | Parameters | Sustainable Careers | Non-sustainable Careers |
|------|--|--|---|
| 1 | Long-term Viability | Sustainable careers exhibit long-term viability, adapting to changing market needs and technological advancements. They embrace continual learning and skill development, ensuring relevance over time. | Non-sustainable careers may lack adaptability, relying on stagnant skills or industries vulnerable to obsolescence. |
| 2 | Personal Fulfillment and Well-being | Sustainable careers prioritize personal fulfillment, encompassing job satisfaction, work-life balance, and overall well-being. They emphasize holistic growth and mental health. | In contrast, non-sustainable careers may prioritize short-term gains at the expense of personal well-being, leading to burnout and dissatisfaction. |
| 3 | Adaptability and Resilience | Sustainable careers thrive on adaptability and resilience, allowing individuals to pivot in response to market shifts and challenges. They embrace change and seek growth opportunities. | Non-sustainable careers might resist change, lacking resilience and becoming obsolete in rapidly evolving industries. |
| 4 | Societal Impact and Ethical Engagement | Sustainable careers prioritize societal impact and ethical engagement, aligning professional endeavors with societal needs and ethical values. They contribute positively to societal well-being and environmental sustainability. | Non-sustainable careers may neglect societal impact, focusing solely on personal gains without ethical considerations. |
| 5 | Continuous Learning and Development | Sustainable careers emphasize continuous learning and skill enhancement, fostering growth and future readiness. They prioritize staying updated with industry trends. | Conversely, non-sustainable careers may lack commitment to learning and development, hindering adaptability and long-term growth. |
| 6 | Industry Relevance and Innovation | Sustainable careers remain relevant by fostering innovation and embracing emerging technologies. They drive change and contribute to industry advancements. | Non-sustainable careers might resist innovation, leading to stagnation and eventual irrelevance in competitive industries. |

Understanding the Shifting Professional Landscape

The contemporary professional landscape is characterized by a state of perpetual flux, propelled by multifaceted factors that continuously redefine industries, career trajectories, and skill demands (Manyika, 2017). Globalization, technological innovations, socio-economic changes, and evolving consumer preferences collectively contribute to this dynamic environment. Industries once considered stable are now subject to rapid disruptions, leading to the emergence of new markets and the obsolescence of traditional practices. The landscape's fluidity demands a paradigm shift in how professionals perceive and approach their careers. It necessitates an acute awareness of industry trends, the ability to anticipate shifts in market demands, and a proactive stance towards learning and adaptability. Professionals navigating this landscape must embrace agility, flexibility, and a growth mindset to remain resilient and relevant amidst the incessant evolution of the professional terrain. Understanding this dynamic landscape is pivotal for individuals aiming to cultivate sustainable careers, as it forms the basis for strategic career planning, skill development, and resilience-building in an ever-changing professional ecosystem (Li et al., 2020).

Challenges and Opportunities Presented by Dynamism

The dynamism inherent in today's professional sphere brings forth a spectrum of challenges and opportunities that reshape career landscapes and professional growth trajectories.

Challenges of Dynamism:

- **Job Displacement:** Automation and technological advancements pose a risk of displacing traditional job roles, necessitating adaptability and upskilling to remain relevant.
- **Global Competition:** Globalization intensifies competition, demanding higher levels of adaptability and diverse skill sets to thrive in interconnected markets.
- **Rapid Skill Evolution:** Constant changes in skill requirements create challenges for professionals in aligning their expertise with evolving industry demands.

Opportunities within Dynamism:

- **Innovation and New Pathways:** The dynamic landscape fosters an environment conducive to

innovation, birthing new industries and career pathways.

- **Proactive Learning and Growth:** Embracing a proactive learning approach unlocks possibilities for career reinvention and growth amid evolving job roles.
- **Technological Advancements:** Leveraging technology presents opportunities for streamlining processes, exploring new career prospects, and creating innovative job roles.

Recognizing and navigating these challenges while capitalizing on the opportunities presented by the dynamic professional landscape is instrumental in fostering resilience and sustained growth in careers.

Impact of Technological Advancements on Career Sustainability

Understanding and leveraging the impact of technological advancements on careers is essential for professionals aiming for long-term career sustainability.

- **Job Transformation:** Technological advancements redefine job roles, requiring professionals to adapt to new skill sets and job functions. While some roles may become automated, others emerge, demanding expertise in areas such as data analysis, artificial intelligence, or cybersecurity.
- **Skill Relevance and Upskilling:** Continuous technological evolution necessitates ongoing upskilling to maintain relevance in the job market. Professionals must embrace lifelong learning, acquiring new competencies and staying updated with emerging technologies relevant to their industries.
- **Career Opportunities and Innovation:** Technological advancements create new career opportunities in burgeoning fields such as digital marketing, software development, and data science. Innovation flourishes, enabling professionals to contribute to groundbreaking developments within their industries.
- **Workplace Efficiency and Remote Accessibility:** Technology enhances workplace efficiency through automation and collaboration tools. Remote accessibility allows for flexible work arrangements, transforming traditional work structures and fostering a more adaptable workforce.
- **Ethical Considerations and Adaptation:** With

technological advancements, professionals face ethical considerations surrounding data privacy, AI ethics, and digital responsibility. Adapting to these ethical considerations becomes integral to career sustainability and societal impact.

- **Job Disruption and Resilience Building:** While technological shifts might disrupt certain job sectors, they also necessitate resilience-building skills. Adaptability, critical thinking, and problem-solving become crucial for navigating uncertain job landscapes.

Strategies for Crafting Sustainable Careers

Crafting sustainable careers entails employing diverse strategies encompassing personal well-being, adaptability, seizing growth opportunities, and fostering societal impact (Valcour, 2015). The subsequent section delves into crucial aspects concerning the strategies for constructing sustainable careers.

Cultivating Personal Well-being in a Changing Environment

Cultivating personal well-being amidst a changing environment requires a concerted effort to maintain a healthy work-life balance, employ effective stress management techniques, and seek job roles that align with individual values and aspirations.

- **Work-life Balance:** Fostering work-life balance becomes paramount in a rapidly changing environment. It involves setting boundaries between professional commitments and personal life, allowing time for relaxation, family, and personal pursuits. Striking a harmonious balance contributes to reduced stress and increased overall well-being.
- **Stress Management:** As the pace of change accelerates, effective stress management techniques become essential. Techniques such as mindfulness, meditation, regular exercise, and time management aid in reducing stress levels, enhancing resilience, and maintaining mental and emotional equilibrium amidst professional challenges.
- **Job Satisfaction:** Sustaining job satisfaction is pivotal for personal well-being. It involves finding meaning and fulfillment in one's work, aligning values with professional endeavors, and seeking roles that provide a sense of purpose. Job satisfaction not only contributes to overall happiness but also

enhances motivation and resilience in a dynamic work environment.

Enhancing Adaptability and Resilience

Enhancing adaptability and resilience entails a commitment to continual learning and skill development while embracing change and uncertainty as opportunities for growth.

- **Continuous Learning and Skill Development:** Emphasizing continuous learning and skill enhancement is integral to enhancing adaptability and resilience. Professionals should adopt a growth mindset, proactively seeking opportunities for learning, acquiring new competencies, and staying abreast of industry trends. This approach enables individuals to adapt to evolving job requirements and technological advancements.
- **Embracing Change and Uncertainty:** Building resilience involves embracing change and navigating uncertainty with a positive outlook. It requires flexibility, the ability to pivot strategies, and viewing challenges as opportunities for growth. Adapting to new situations, remaining open to change, and reframing uncertainties as learning experiences fosters resilience, enabling professionals to thrive in dynamic work environments.

Seizing Growth Opportunities

Seizing growth opportunities entails actively pursuing professional development initiatives while cultivating meaningful connections through mentorship and networking.

- **Professional Development Initiatives:** Engaging in targeted professional development initiatives is crucial for seizing growth opportunities. This involves attending workshops, courses, or obtaining certifications relevant to one's field. By investing in personal growth and skill enhancement, professionals position themselves to capitalize on emerging opportunities within their industries.
- **Mentorship and Networking:** Leveraging mentorship and networking facilitates access to invaluable guidance, insights, and opportunities for professional advancement. Building relationships with mentors and peers provides a platform for knowledge exchange, advice, and potential collaborations, fostering career growth and expanding one's professional horizons.

Fostering Societal Impact and Ethical Engagement

Fostering societal impact and ethical engagement requires individuals to align their careers with personal values while actively contributing to societal well-being through meaningful actions.

- **Aligning Career with Personal Values:** Fostering societal impact and ethical engagement begins with aligning one's career with personal values. This involves seeking roles and organizations that resonate with one's ethical principles, beliefs, and societal concerns. By ensuring alignment, professionals can contribute meaningfully while staying committed to ethical standards in their professional endeavors.
- **Contributing to Societal Well-being:** Actively contributing to societal well-being forms a cornerstone of ethical engagement. This encompasses initiatives such as volunteering, advocacy, or participation in corporate social responsibility programs aimed at addressing societal challenges. Professionals can leverage their skills and resources to positively impact communities and contribute to a more equitable and sustainable society.

Implications for Individuals, Organizations, and Society

The implications of cultivating sustainable careers extend to individuals, organizations, and society at large.

Individuals

- **Enhanced Well-being:** Embracing sustainable career strategies leads to improved personal well-being, fostering a balanced and fulfilling professional life.
- **Continuous Growth:** Individuals benefit from continuous growth opportunities, skill development, and a more resilient approach to career challenges.
- **Alignment with Values:** Crafting sustainable careers allows individuals to align their career choices with personal values, contributing to a sense of purpose and fulfillment.

Organizations

- **Increased Productivity:** Encouraging sustainable career practices among employees enhances productivity, job satisfaction, and retention rates within organizations.

- **Innovation and Adaptability:** A workforce adept in sustainable career strategies often fosters innovation and adaptability, enabling organizations to navigate changes effectively.
- **Positive Corporate Image:** Organizations promoting employee well-being and ethical engagement contribute positively to their corporate image and attract top talent.

Society

- **Contributions to Societal Well-being:** Individuals engaging in sustainable careers actively contribute to societal well-being through ethical practices and social initiatives.
- **Skilled and Adaptable Workforce:** A workforce focused on sustainable career practices translates into a more skilled, adaptable, and socially conscious society.
- **Ethical and Sustainable Impact:** The collective impact of individuals engaging in sustainable career choices creates a ripple effect, fostering ethical and sustainable practices across various sectors of society.

Strategies for Promoting Career Sustainability

Strategies for Promoting Career Sustainability encompass a holistic approach aimed at fostering a conducive environment for long-term professional growth.

Continual Learning and Skill Development

- **Lifelong Learning:** Encourage a culture of continuous learning and skill development within individuals to adapt to changing job demands.
- **Professional Development Programs:** Implement programs that support employees' continual growth and acquisition of new skills relevant to their roles and industry trends.

Flexible Work Environments

- **Work-Life Balance Initiatives:** Offer flexible work arrangements and initiatives promoting work-life balance to enhance employee well-being and job satisfaction.
- **Remote Work Opportunities:** Facilitate remote work options to accommodate diverse lifestyles and enhance job flexibility.

Ethical Engagement and Social Responsibility

- **Promote Ethical Conduct:** Establish ethical

guidelines and practices within organizations, emphasizing the importance of ethical behavior and decision-making.

- **Corporate Social Responsibility (CSR):** Encourage participation in CSR initiatives, fostering a sense of societal contribution and ethical engagement among employees.

Mentorship and Professional Networking

- **Mentorship Programs:** Implement mentorship initiatives to facilitate knowledge exchange, skill development, and career guidance for professional growth.
- **Networking Opportunities:** Facilitate networking events or platforms to connect employees with peers, mentors, and industry professionals, fostering collaboration and career advancement.

Embracing Diversity and Inclusion

- **Diversity Initiatives:** Establish inclusive practices that embrace diversity in the workforce, promoting varied perspectives and innovative thinking.
- **Inclusive Leadership:** Encourage inclusive leadership styles that value diverse contributions, creating an environment conducive to career growth for all individuals.

Recognition and Reward Systems

- **Acknowledgment of Contributions:** Implement recognition programs that acknowledge employees' achievements, encouraging continued dedication and commitment.
- **Performance-Based Rewards:** Offer rewards aligned with performance and growth, motivating individuals to excel in their careers.

Implementing these strategies promotes career sustainability by nurturing continuous learning, fostering work environments supportive of well-being, ethical engagement, mentorship, diversity, and recognition of contributions within organizations.

Future Trends and Considerations in Sustaining Careers

Future trends and considerations in sustaining careers reveal a landscape marked by transformative shifts and evolving paradigms.

Automation and Artificial Intelligence (AI)

- **Upskilling for Technological Adaptation:** The increasing integration of automation and AI in

various industries will require individuals to acquire new skills and adapt to changing job roles.

- **Job Redefinition:** Some traditional job functions may evolve or become automated, prompting the need for reskilling and exploration of new career pathways.

Remote Work and Flexibility

- **Hybrid Work Models:** The rise of remote work will continue, leading to the adoption of hybrid work models combining in-person and remote work.
- **Focus on Work-Life Integration:** Organizations will prioritize strategies that foster work-life integration to support employee well-being and productivity.

Emphasis on Sustainability and Social Impact

- **Demand for Ethical and Sustainable Practices:** There will be a growing emphasis on ethical engagement, sustainability, and corporate social responsibility, influencing career choices and organizational priorities.
- **Careers in Green and Renewable Energy:** Increasing focus on environmental conservation will create opportunities for careers in green industries and renewable energy sectors.

Continuous Learning and Adaptability

- **Lifelong Learning as a Norm:** The need for continuous learning will become the norm, with individuals expected to adapt to evolving technologies and industry trends throughout their careers.
- **Adapting to Industry Changes:** Professionals will need to embrace change and agility, being open to learning new skills to remain competitive in rapidly evolving industries.

Diversity, Equity, and Inclusion (DEI)

- **Advancement in DEI Initiatives:** There will be a heightened focus on fostering diverse, equitable, and inclusive workplaces, creating opportunities for careers in DEI consulting, leadership, and strategy.

Health and Well-being at the Forefront

- **Focus on Mental Health Support:** Organizations will prioritize mental health support and wellness programs, recognizing the importance of employee well-being in sustaining careers.

Understanding and preparing for these future trends will be essential for individuals and organizations aiming to sustain careers in an ever-evolving professional landscape. Embracing technological advancements, flexibility, ethical engagement, continuous learning, diversity, and well-being initiatives will shape the foundation for resilient and sustainable career paths.

Conclusion

In recapitulating the significance of sustainable careers, it becomes evident that they embody the fusion of personal well-being, adaptability, growth opportunities, and ethical engagement. This synthesis ensures long-term fulfillment and societal contribution within a dynamic professional landscape. The framework for crafting sustainable careers revolves around nurturing personal well-being, fostering adaptability, seizing growth opportunities, and promoting societal impact. Thriving in this environment demands resilience, continual learning, and a proactive approach to change. By embracing these principles, individuals not only navigate the evolving professional landscape but also contribute meaningfully to their success and the betterment of society. Sustainable careers transcend conventional career paths, embodying a mindset that enables enduring, impactful, and fulfilling professional journeys.

References

- Anderson, S. (2020, May 19). *Why Stakeholder Management is Essential to Sustainable Business*, Sustainability, HSE & Social Impact Software. <https://www.isystain.com/blog/2020/5/18/stakeholder>
- Bhayana, C., Gopakumar, K., V., and Vohra, N. (2023). Building Sustainable Careers: The Case of Multiple Job Holders. *Proceedings - Academy of Management*, 2023(1). <https://doi.org/10.5465/amproc.2023.17311abstract>
- Craig, H. (2019, January 16). *Resilience in the Workplace: How to be More Resilient at Work*. <https://positivepsychology.com/resilience-in-the-workplace/>
- Curado, C., Gonçalves, T., R., and Ribeiro, C. (2023). Validating Sustainable Career Indicators: A Case Study in a European Energy Company, *Merits*, 3(1), 230–247. <https://doi.org/10.3390/merits3010014>
- Donald, W. E., and Jackson, D. (2023). Sustainable Career Ecosystems: Setting the Scene. In W. E. Donald (Ed.), *Handbook of Research on Sustainable Career Ecosystems for University Students and Graduates* (pp. 1–13). IGI Global. <https://doi.org/10.4018/978-1-6684-7442-6.ch001>
- Haferkamp, H., and Smelser, N., J. (Eds.). (1992). *Social Change and Modernity*, University of California Press, Berkeley, <http://ark.cdlib.org/ark:/13030/ft6000078s/>
- Khanna, P., and Dutta, R. (2023). Designing Gen Z Careers: A Design Thinking Approach to Sustainable Careers. In W. E. Donald (Ed.), *Handbook of Research on Sustainable Career Ecosystems for University Students and Graduates* (pp. 428–449). IGI Global. <https://doi.org/10.4018/978-1-6684-7442-6.ch022>
- Kosseck, E. E., Gettings, P., & Misra, K. (2021, September 28). *The Future of Flexibility at Work*. Harvard Business Review. <https://hbr.org/2021/09/the-future-of-flexibility-at-work>
- Lawrence, B. S., Hall, D. T., & Arthur, M. B. (2015). Sustainable careers then and now. In *Handbook of Research on Sustainable Careers* (pp. 432–450), Edward Elgar Publishing, Cheltenham, UK. <https://doi.org/10.4337/9781782547037.00033>
- Li, Y., Li, X., Chen, Q., and Xue, Y. (2020). Sustainable Career Development of Newly Hired Executives—A Dynamic Process Perspective, *Sustainability*, 12(8), 3175. <https://doi.org/10.3390/su12083175>
- Manyika, J. (2017, May 24). *Technology, jobs, and the future of work*. McKinsey & Company. <https://www.mckinsey.com/featured-insights/employment-and-growth/technology-jobs-and-the-future-of-work>
- Manyika, J., and Sneader, K. (2018, June 1). *AI, automation, and the future of work: Ten things to solve for*. McKinsey & Company. <https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for>
- McDonald, K., S., Hite, L., M., and O'Connor, K. W. (2022). Developing sustainable careers for remote workers. *Human Resource Development International*, 25(1), 1–17. <https://doi.org/10.1080/13678868.2022.2047148>
- Nimmi, P., M., and Donald, W., E. (2022). Psychological Wellbeing and Sustainable Careers: Insights from Graduates in India. *Employability Conference 2022: The Open University and Nottingham Trent University*. <https://www.researchgate.net/publication/359401962>
- Platinum Management, LLC. (2023, August 19). *The Growing Imperative of Upskilling and Reskilling in the Face of Technological Change*. https://www.linkedin.com/pulse/growing-imperative-upskilling-reskilling-face/?trk=public_post_main-feed-card_feed-article-content
- Rapuano, V. (2020). Toward Sustainable Careers: Literature Review. *Contemporary Research on Organization Management and Administration*, 8(1), 41–54. <https://doi.org/10.33605/croma-012020-004>

17. Reeves, M., and Deimler, M. (2016, July). *Adaptability: The New Competitive Advantage*. Harvard Business Review. <https://hbr.org/2011/07/adaptability-the-new-competitive-advantage>
18. Rinne, A. (2023, October 19). *It's Time to Rethink Traditional Career Trajectories*. Harvard Business Review. <https://hbr.org/2023/10/its-time-to-rethink-traditional-career-trajectories>
19. Rizwan, A., et. al. (2021). A Preliminary Analysis of the Perception Gap between Employers and Vocational Students for Career Sustainability. *Sustainability*, 13(20), 11327. <https://doi.org/10.3390/su132011327>
20. Schweitzer, L., Lyons, S., and Smith, C., J. (2023). Career Sustainability: Framing the Past to Adapt in the Present for a Sustainable Future, *Sustainability*, 15(15), 11800. <https://doi.org/10.3390/su151511800>
21. Sek-yum Ngai, S., Cheung, C.-K., Mo, J., Wang, L., Ng, Y., & Wang, P. (2023). Career Interventions and Social Well-being among Non-engaged Youth: Examining the Mediating Effects of Career Competency. *Children and Youth Services Review*, 148, 106903. <https://doi.org/10.1016/j.childyouth.2023.106903>
22. Singh, S., and Vanka, S. (2020). Sustainable HRM for Sustainable Careers of Women Professionals. In S. Vanka, M. B. Rao, S. Singh, & M. R. Pulaparthy (Eds.), *Sustainable Human Resource Management* (pp. 87–108). https://doi.org/10.1007/978-981-15-5656-2_6
23. Stuer, D., De Vos, A., Van der Heijden, B. I. J. M., and Akkermans, J. (2019). A Sustainable Career Perspective of Work Ability: The Importance of Resources across the Lifespan. *International Journal of Environmental Research and Public Health*, 16(14), 2572. <https://doi.org/10.3390/ijerph16142572>
24. The Investopedia Team. (2022, October 1). *Gig Economy*. Investopedia. <https://www.investopedia.com/terms/g/gig-economy.asp>
25. Valcour, M. (2015). Facilitating the Crafting of Sustainable Careers in Organizations. In D. Vos & V. der Heijden (Eds.), *Handbook of Research on Sustainable Careers* (pp. 20–34). Edward Elgar. <https://doi.org/10.4337/9781782547037.00007>
26. Van der Heijden, B., et. al. (2020). Sustainable careers across the lifespan: Moving the field forward, *Journal of Vocational Behavior*, 117, 103344. <https://doi.org/10.1016/j.jvb.2019.103344>
27. Vos, A., D., Heijden, B., V. der, and Akkermans, J. (2020). Sustainable Careers: Towards a Conceptual Model, *Journal of Vocational Behavior*, 117, 103196. <https://doi.org/10.1016/j.jvb.2018.06.011>
28. Youmatter. (2020, October 6). *Globalization: definition, benefits, effects, examples - What is globalization?* <https://youmatter.world/en/definition/definitions-globalization-definition-benefits-effects-examples/> □

(contd. from pg. 69)

adversaries to overcome. It will always be about preparedness. As mentors, we have to think and work like a tennis coach - get our player to learn footwork and court craft first, stroke-making fluency and timing next, racket preparation and hand-eye coordination after, and finally, emotional well-being, strength, readiness, and toughness to switch on for the big points of important games - to win often enough or play well mostly.

Who will Steer the Bow?

Our community of learners, learnsumers, and stakeholders will have to bear the responsibility of navigation together. If we don't row together, we'll end up working at cross purposes. If we can find shared belief, we will be able to arrive at a common purpose. Learning is a team game and we have to shape our fiber as team players. Each member has different and special skill sets that make them part of the team. □

Contrary to the past, each member is not competing with the other, but learning to compete when playing the big league against professional opposition. If the team learns together, to think like one, cohesively, work like one, collaboratively, and perform out of our skins, we are most likely to be a winning combination or a great losing one.

Our Compass for Our Future?

Learning systems are not about answers anymore. It's about creating optional ways and asking numerous questions to make solutions robust, realistic, and reliable. At the end of the day, most of our endeavours as learnsumers are not about dials, magnets, directions, or the North Star. We will have to find a new way, every which way - as a human race, as sensitive citizens of the universe of all things, performing uniquely, through time. □

Economics Education: A Tool for Enhancing Employability, Decision-making, and Policy Analysis Skills of Present and Future Students

Nitish Kumar Arya*

“— if only economics was better understood, the world would be a better place.”

-Richard Stone (1913-1991),
“Autobiography,” Nobelprize.org, 1984

Economics is a multifaceted discipline that plays a pivotal role in shaping the world we live in today. Economics education plays a pivotal role in the socioeconomic development of nations by equipping students with essential skills, knowledge, and analytical tools. It empowers individuals to understand, navigate, and contribute to their countries' economic landscapes. Over the last half-century, new challenges have been faced by higher education's conventional purpose and civic duty (The National Task Force, 2012). On the one hand, one may argue that the objective of higher education is to gain new information and prepare students for employment. On the other hand, one may argue that higher education institutions should strive for more ideal contributions to emerging economies. That issue has created ongoing quandaries concerning higher education's public purpose and role in the twenty-first century (Brighouse & McPherson, 2015; Dungy, 2012; Levine, 2014).

Higher education plays a critical role in equipping students with the knowledge and skills needed to navigate the complex challenges of the present and future world. In developing countries, where economic disparities, resource constraints, and developmental issues are prevalent, the study of economics becomes particularly vital. Economics, as a field of study, holds immense importance for students in developing countries. The study of economics equips individuals with a comprehensive understanding of how societies allocate resources, make decisions, and address complex economic challenges. It provides a solid foundation for informed decision-making and policy formulation,

* Assistant Professor, School of Liberal Arts, IMS Unison University, Dehradun-248009 (Uttarakhand). E-mail: nitish.1424@gmail.com

making it a crucial component of higher education in developing nations.

Today, India is on the verge of recovering long-overdue credit for its major civilizational achievements and intellectual advances. Simultaneously, the government is working hard to achieve a Gross Enrolment Ratio of 50% in higher education by 2035. According to the All-India Survey on Higher Education (AISHE) 2021 report, there are 33 institutions for every one lakh eligible students aged 18 to 23 years in India. This number is especially relevant considering the country's ambitious goal of increasing the Gross Enrolment Ratio (GER) in higher education to a formidable 50% by 2035. Moreover, we are provided with this present *Amrit Kaal*, to prepare the country to enter its century year in 2047 with full preparation. India has an outstanding 15.55 lakh college instructors and around 2.36 lakh university professors. This statistic is increasing at an exponential rate. The need for talented and devoted personnel committed to joint efforts and considerable contributions remains critical. The way to 50% GER entails resolving the imbalance between the number of higher education institutions and the expanding youthful population. This calls for a systematic expansion of educational institutions across the country. While the number of college and university teachers is increasing, the emphasis should go beyond numbers. The emphasis should be on developing a pool of educators who are not just academically gifted but also deeply committed to their profession.

Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources and how they interact with each other in producing and maintaining livelihoods. Economic theory developed historically from political economy. The Great Depression of the 1930s generated a rich period of scientific ferment and change in economic theory. The Keynesian school of thought proposed that underdevelopment concerns be remedied by expanding government operations. The 2008 global financial crisis prompted the formation

of alternative economic theories, such as heterodox economics, to provide greater insights into the actual world. In this context, the study of economics becomes increasingly important for students in higher education institutions. Economics, often referred to as the “dismal science,” is anything but dismal when it comes to its impact on society. It encompasses the study of resource allocation, market dynamics, consumer behaviour, government policies, and global economic systems, making it a critical field of study.

This research article highlights the significance of economics education in higher institutions for students in developing countries, shedding light on its potential to drive positive change. This article elucidates the importance of economics education in higher learning institutions.

The Role of Economics Education

Economic and Financial Literacy

Economics education empowers students with financial literacy skills, enabling them to make informed decisions about their personal finances. This economic literacy is essential for informed citizenship and active participation in economic decision-making processes. By understanding concepts such as budgeting, saving, investing, and debt management, students are better equipped to navigate the complexities of modern financial systems and secure their financial futures. In developing countries, where economic policies directly impact the well-being of citizens, an economically literate populace can hold policymakers accountable and contribute to more equitable development. In a broader context, well-informed citizens can hold policymakers accountable for their decisions and advocate for policies that promote economic stability and social progress.

Enhancing Analytical Thinking and Critical Thinking Skills

Shapiro and Varian (1999) explain that economics education fosters critical thinking and analytical skills among students. By examining real-world economic issues, students learn to analyse complex problems, identify potential solutions, and evaluate the consequences of various policy choices. These skills are invaluable assets in a rapidly changing global economy, enabling graduates to make informed decisions, whether in government, business, or civil society.

Career Opportunities and Employability

Economics graduates possess a diverse skill set that is highly valued by employers across various industries. Their ability to analyse data, make evidence-based decisions, and understand market trends makes them desirable candidates in today’s competitive job market. Economics education fosters critical thinking and critical thinking skills that are transferable to a wide range of professions, enhancing graduates’ employability.

Informed Citizenship

An economically literate citizenry is essential for the functioning of a democratic society. Economics education equips individuals with the knowledge necessary to critically assess government policies, understand the implications of economic decisions on society, and engage in informed civic participation. Informed citizens are better equipped to hold governments and institutions accountable for their economic choices.

Global Perspective

In an increasingly interconnected world, economics education provides students with a global perspective. It enables them to comprehend the intricacies of international trade, economic development, and global challenges such as poverty and climate change. This global awareness is crucial for addressing pressing global issues and fostering international cooperation.

Economic Policy and Governance

Economics graduates often play pivotal roles in shaping economic policies and governance. They contribute to designing and evaluating policies that influence economic stability, growth, and social equity. A well-rounded understanding of economics is imperative for policymakers and government officials to make informed decisions that benefit society. Economics graduates are well-positioned to engage in evidence-based policy formulation and implementation. They can address issues such as fiscal policy, monetary policy, and trade agreements, tailoring solutions to the unique challenges faced by their countries. Involving economists in the policymaking process enhances the likelihood of achieving desirable economic outcomes.

Bridging the Skills Gap and Skill Development

Developing countries face a gap between the skills demanded by their growing economies and

the skills possessed by their workforce. Economics education equips students with market-relevant skills, such as data analysis, financial management, and entrepreneurship. These skills enhance employability and help students contribute meaningfully to their nations' economic development (Greene and Rosen, 1990). Economics education imparts students with a diverse set of analytical, problem-solving, and critical thinking skills. These skills are invaluable for addressing issues related to poverty, unemployment, inflation, and resource allocation—familiar challenges in developing countries. Graduates equipped with economic literacy are better prepared to propose, evaluate, and implement policies aimed at sustainable development.

Promoting Inclusive Growth and Supporting Sustainable Development

Economics education encourages an understanding of the factors that influence income inequality and poverty. It equips students with the tools to design and evaluate policies aimed at reducing disparities and promoting inclusive growth. Graduates with a solid foundation in economics can actively engage in poverty alleviation programmes, thereby contributing to their countries' overall development goals. Sustainability is a pressing global concern, and economics education plays a crucial role in addressing it. Students learn about the interplay between economic growth, environmental conservation, and social equity. They can contribute to sustainable development by advocating for environmentally responsible policies and business practices.

Economic Development and Growth

A strong foundation in economics fosters an environment conducive to economic development. When students in developing countries receive quality economics education, they are better positioned to contribute to their nations' economic growth. This, in turn, attracts investments, creates job opportunities, and reduces poverty rates. Furthermore, a skilled and educated workforce can drive innovation and enhance productivity, propelling the country towards sustainable development.

Global Competitiveness

In an increasingly interconnected world, countries must compete on a global scale. Economics education equips students with a global perspective,

enabling them to understand international trade, foreign investments, and global economic dynamics. This knowledge is invaluable for developing countries looking to expand their international trade networks, attract foreign investments, and compete effectively in the global market.

Challenges and Recommendations

Accessibility and Affordability

To maximize the impact of economics education, it is crucial to ensure that it is accessible and affordable for all students in developing countries. This can be achieved through scholarships, grants, and the expansion of online learning platforms.

Curriculum Enhancement

To maximise the impact of economics education, it is crucial to ensure that it is accessible and affordable for all students in developing countries. This can be achieved through scholarships, grants, and the expansion of online learning platforms.

Collaboration with Industry

Collaboration between academia and industry can bridge the gap between theoretical knowledge and practical application. Developing partnerships with businesses and government agencies can provide students with real-world experience and insights.

Conclusion

In conclusion, economics education in higher institutions is of paramount importance for students in India if we want to enter the century year 2047 as a developed country. By investing in economics education, developing countries can empower their citizens to contribute to economic growth, make informed decisions, and compete effectively on the global stage, leading to sustainable development and prosperity. Policymakers, educators, and stakeholders must work together to ensure that economics education is accessible, relevant, and of high quality in these nations. Economics education in higher institutions is indispensable for personal development, career advancement, informed citizenship, and addressing complex societal challenges. It equips students with valuable skills and knowledge that extend far beyond the classroom, making it an essential component of higher education curricula. As we navigate an increasingly complex and interconnected world, the importance of economics education in higher

(contd. on pg. 100)

Tech-infused Advancement for Indian Higher Education

Kiran Lata Dangwal* and Surbhi Sharma**

The Education System in India is under flux after the recommendations of the New Education Policy 2020, which emphasized leveraging the potential use of technology in teaching-learning process. Educationist Walder, (2017) has described the importance of innovative pedagogies that are capable of reinventing teaching practices and satisfying professors as well as the associated academic institution's pride in the achievement. However, the adaptation of technologies and integration of web-based learning by the higher education system of India has encountered many challenges. Besides, diversity among learners and their study interests cannot fit in the 'one size for all' model approach. It demands a more personalized and individualized learning system. This article documents the status of digitalization and Tech-infused advancement for the higher education system in India after the NMEICT project. A brief sketch is drawn on Indian government initiatives, policies, and schemes like the Digital India initiative, SWAYAM, National e-Library, etc. that have empowered the system of higher education. The important findings from the literature and reports reviewed have delved into the outreach, access, quality, and equity for the digitalization of education among higher education institutions. The educational landscape in India has experienced profound changes over the years, driven by the shifting dynamics of society, evolving cultural norms, deep-rooted traditions, and the ever-changing demographics and political structures. These transformations have shaped the way education is perceived and delivered in the country.

In the bygone era, India boasted a rich tradition of education that encompassed the renowned Gurukul system and *Ashram padhatis*. These ancient methods of learning were deeply rooted in indigenous culture, emphasizing holistic education, character development, and spiritual growth. Education in those times placed a heavy emphasis on the recitation of hymns, *mantras*, and the memorization of texts

* Associate Professor, Department of Education, University of Lucknow, Uttar Pradesh - 226007. E-mail: kldangwal@yahoo.co.in, kldangwal@gmail.com

**Senior Research Fellow, Department of Education, University of Lucknow, Uttar Pradesh - 226007. E-mail: kldangwal@yahoo.co.in

through rote learning. Students were nurtured in close-knit, *guru*-student relationships, imbibing not only knowledge but also values and life skills.

However, as India came under British colonial rule, a gradual transformation occurred in the education system. British and European school systems were introduced, marking a significant departure from the traditional methods. The colonial education system aimed to serve the needs of the British Empire, primarily focusing on producing clerks and administrators. This shift led to the marginalization of indigenous education practices, and the Gurukul system began to decline.

In the post-independence period, India witnessed a re-evaluation of its education system. The emphasis shifted from rote learning and memorization to pedagogies that encouraged critical thinking, logical reasoning, and scientific inquiry. The adoption of these modern teaching methods aimed to equip students with the skills and knowledge needed to thrive in a rapidly changing world.

Today, the Indian education system continues to evolve in response to the challenges and opportunities of the 21st century. It seeks to strike a balance between preserving its rich cultural heritage and embracing innovative approaches to education. The emphasis on holistic development, character building, and ethical values from the traditional Gurukul system remains a cherished aspect of education, while modern methodologies focus on equipping students with the tools to navigate a complex and interconnected global landscape.

From History to Present: Traversing Pace of Education

Over the course of history, the education system in India has traversed a remarkable journey, transitioning from ancient Gurukul and *Ashram* systems to colonial-era British models, and finally to contemporary pedagogies that prioritize critical thinking and scientific reasoning. This evolution reflects the resilience of India's education system in adapting to changing times while preserving its cultural essence.

The esteemed educational institutions such as Nalanda and Taxila have undergone a remarkable transformation, evolving into iconic historical landmarks that bear witness to their significant contributions to knowledge and learning. Simultaneously, contemporary institutions such as the Indian Institute of Science (IISc), the Indian Institutes of Technology (IITs), and the Indian Institutes of Management (IIMs) have ascended to unparalleled prominence, solidifying their positions as frontrunners in the international landscape of education.

Nalanda and Taxila, steeped in antiquity, have traversed the annals of time to become revered symbols of ancient scholarship. These centres of learning, nestled in the rich tapestry of Indian history, were once bustling hubs of intellectual exchange, drawing students and scholars from distant lands. Their legacy now endures as historical landmarks, reminding us of the profound impact they had on the dissemination of knowledge during their heyday.

In stark contrast, the contemporary institutions mentioned above have undergone a meteoric rise to prominence within the global educational milieu. The Indian Institute of Science, with its cutting-edge research and innovative programs, stands at the forefront of scientific discovery and technological advancement. The Indian Institutes of Technology, spread across the nation, have become synonymous with excellence in engineering and technology education, producing a cadre of world-class engineers and innovators. Similarly, the Indian Institutes of Management are hailed as premier institutions for nurturing business leaders and management experts, not only within India but also on the world stage.

These modern institutions have risen to prominence through a combination of rigorous academic standards, world-class faculty, and a commitment to fostering innovation. They have become beacons of higher education, attracting talent from across the globe and shaping the future of various fields. In doing so, they carry forward the rich tradition of educational excellence that institutions like Nalanda and Taxila once embodied, ensuring that India remains a global leader in education and research.

In the 21st century, India has seen a significant transition into a technology-driven society, wherein

emphasis has been placed on enhancing the technological literacy of its workforce. This shift has led to a surge in the integration of technology within the education sector. This evolution into technology integration can be understood by going back to the early 1990s, when India started utilising technology for education. During this period, India started harnessing various technological tools such as radio, television, and VCDs to facilitate personalized education and open and distance learning. These mediums, though innovative at the time, had their limitations, mainly due to their one-way communication nature and limited interactivity. Nevertheless, they represented the initial steps towards blending technology with education in the Indian context. The real game-changer came with the advent of the internet, coupled with its growing accessibility across the nation. This seismic shift gave rise to web-based learning, which opened up a world of possibilities. It allowed educators and students to transcend geographical boundaries, granting them access to a vast array of educational resources from around the globe.

Moreover, technology-enabled teaching and learning emerged as a powerful pedagogical approach. This encompassed a wide spectrum of innovations, from interactive learning platforms and multimedia-rich content to online assessments and virtual classrooms. These innovations not only made education more engaging but also paved the way for personalized learning experiences tailored to individual students' needs and preferences. Hybrid model and Smart classrooms are wielding to be a cause for teachers' professional development and increased learners' engagement. The educational new paradigm observed that lectures are no longer confined to physical classrooms; instead, they are recorded and live-streamed, enabling students both locally and globally to access educational content from the comfort of their own homes. This shift has dismantled geographical barriers, allowing a diverse range of learners to participate in educational experiences that might be a challenge to access otherwise.

Furthermore, the administration of assignments and coursework has migrated to online platforms. Students can now submit their work electronically, and educators can manage and grade assignments with greater efficiency and accuracy. This digital

transformation has streamlined processes such as evaluation and accreditation, making them more transparent and accessible to both students and institutions. The digital revolution has radically transformed the way individuals access educational resources. Books, periodicals, journals, and other scholarly materials are now readily available electronically, making them accessible to anyone with an internet connection, regardless of their location. This has democratized knowledge and research, empowering individuals from all corners of the globe to engage with academic content.

The global COVID-19 pandemic acted as a catalyst for the rapid adoption of technology in education. With physical classrooms temporarily closed, educators turned to multimedia resources and social networking applications to ensure that learning could continue. Platforms like WhatsApp and YouTube played pivotal roles in facilitating communication between teachers and students, as well as delivering instructional content. This forced adaptation to technology has not only accelerated the digitalization of education but has also expanded the range of tools and resources available to educators and learners. The tech-infused progress of education system can be characterized by seamless integration of technology into every facet of the learning experience providing avenues of innovation, enhancing quality of education and increased accessibility. From virtual lectures to digital assignments, online resources, and the use of social media, technology has fundamentally reshaped education, breaking down barriers and providing new opportunities for students and educators alike.

Literature Review

The Digitalization of education is defined as the usage of a combination of technology, digital content and instructions in the education system (Chatwal, 2019). Studies from K, S., & Baskaran, M., (2019); Ozarde, (2021) are in support that digitalization of education can make things more effective and efficient than the traditional methods. In a report from UNESCO, (2022) on Artificial Intelligence in education has revealed the expectations for AI market in India to reach US\$7.8 billion by 2025 at the rate of 20.2 % compound annual growth. The profound emphasis on the disruptive technologies like AR, VR, XR and AI in education is considered by India's New Education Policy 2020 as a means to

bring the curriculum and educational infrastructure at par with 21st century requirements. In order to achieve SDG4, i.e., to ensure equitable and inclusive quality education and to promote lifelong learning opportunities for all, digital transformation of education is considered as a prerequisite.

In a report on Digital ICT Initiatives, MHRD, (2020) the status of various government initiatives taken for the capacity building and enhancement of professional skills of teachers in higher education are documented which reflects upon the challenges and area of concerns to achieve the objectives of digital transformation in India. Thus, a dire need to understand the efforts made by government, the pervasive challenges and the availability of resources to meet the difficulties, is felt through the review of literature. A successive planning, monitoring, evaluation and dissemination with discussion of solutions is required to make the stakeholders aware of the benefits of digitalization.

In the "State of the Education Report for India 2022: Artificial Intelligence in Education", as presented by UNESCO, Director Eric Falt explicitly acknowledged the paramount significance of fostering innovation as a means to attain Sustainable Development Goal 4 (SDG 4). The overarching objective of SDG 4 is to elevate the standard of education and improve learning outcomes for all students. Falt commendably lauded India for its proactive endeavours in harnessing the potential of digital initiatives, particularly those powered by Artificial Intelligence (AI), as a means to augment the efficiency of the learning process.

India's National Education Policy (NEP) of 2020 demonstrates a keen awareness of the reciprocal relationship between technology and education across all educational tiers. The NEP, in its forward-looking vision, underscores the imperative of aligning the nation's educational landscape with the ongoing digitization trends. This alignment, at its core, seeks to transform existing educational resources and information into digital formats, thereby facilitating their widespread accessibility to the public. This transformative shift signifies a pivotal milestone on India's educational journey, as it propels the nation towards a more inclusive, technologically advanced, and globally competitive education system.

Government Initiatives and Digitalization of Education in India

In an era characterized by globalization, the fluid movement of people, knowledge, technology, and information has ushered in a profound transformation in the field of education. The conventional paradigm of education, focused on passive knowledge transfer, is now evolving into a dynamic, collaborative, self-directed, and engaging experience. Particularly in higher education, digitalization is taking centre stage, revolutionizing the way knowledge is imparted and acquired. Against this backdrop of rapid change, the Government of India has initiated a series of visionary programs in collaboration with both public and private sectors, ushering in a new era of educational advancement. Some of them are presented here.

Digital India

At the forefront of this educational revolution is the ambitious “Digital India” campaign launched by the Indian government. This comprehensive initiative aims to leverage technology to transform various sectors, including education. Through the creation of digital infrastructure and the provision of high-speed internet connectivity, it is paving the way for widespread access to educational resources and platforms, particularly in remote and underserved areas.

National Digital Library (NDL)

The National Digital Library project is a significant step towards democratizing access to educational content. It houses a vast repository of digital learning resources, including textbooks, lectures, and research papers. This initiative has expanded the horizons of learning, making a wealth of knowledge accessible to students and educators across the country.

SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)

SWAYAM is another pioneering endeavour that offers free online courses and study material from top universities and institutions. It allows learners to access high-quality education, breaking down geographical barriers and providing opportunities for skill development and specialization.

eVidya

In the wake of the COVID-19 pandemic,

the government launched the eVidya program to support online learning. It provided access to digital platforms and content for schools and colleges, ensuring that education could continue even during lockdowns and disruptions.

National Education Policy (NEP) 2020

The NEP 2020 envisions a holistic transformation of the education system in India. It emphasizes digitalization by promoting online and digital learning resources, integrating technology in pedagogy, and fostering innovation and research. This policy sets the stage for a more flexible and learner-centric education system.

Public-Private Partnerships (PPP)

The government recognizes the significance of collaboration with the private sector to drive digitalization further. Partnerships with tech giants and edtech companies have led to the development of innovative educational tools, platforms, and content that cater to diverse learning needs and preferences.

National Knowledge Network (NKN)

The National Knowledge Network (NKN), a state-of-the-art national network, structured to build a knowledge society without boundaries. Its aims at knowledge sharing and collaborative research by interconnecting institutions of higher learning and research through high-speed data communication network. The salient features of National Knowledge Network (NKN) (Figure -1) are:

- i. Establishing Connectivity for Knowledge and information sharing.
- ii. Enabling Collaborative Research in emerging areas such as Climate Modelling.
- iii. Facilitating distance education in specialized fields such as medicine, emerging high tech areas covering info-bio-nano technology.
- iv. Facilitating an ultra-high-speed e-governance backbone for information sharing.

KINDLE

The *Knowledge and Information Network for Digital Learning and Education* (KINDLE) is an initiative to utilize digital and other technologies to address learning gaps and make education accessible to all. A joint effort of the World Economic Forum,

Fig-1: Salient Features of NKN



Source: NKN | National Informatics Centre (www.nic.in)

UNICEF and YuWaah (Generation Unlimited in India), it proposes solutions that align with, and hence augment and amplify, India’s National Education Policy (NEP) 2020 and the National Digital Education Architecture of 2021. Under the KINDLE umbrella, a multistakeholder group of experts in education technology (edtech), representatives of state and central governments, members of non-governmental organizations (NGOs), leading educationalists and path-breaking start-ups studied the existing government and private interventions aimed at improving learning outcomes in schools. They found four areas ripe for innovation UNESCO, (2022):

- i. The kindergarten to grade 12 (K-12) space: foundational numeracy and literacy,
- ii. Teacher professional development (TPD),
- iii. School-to-work transition and
- iv. Connecting the unconnected.

Project NMEICT

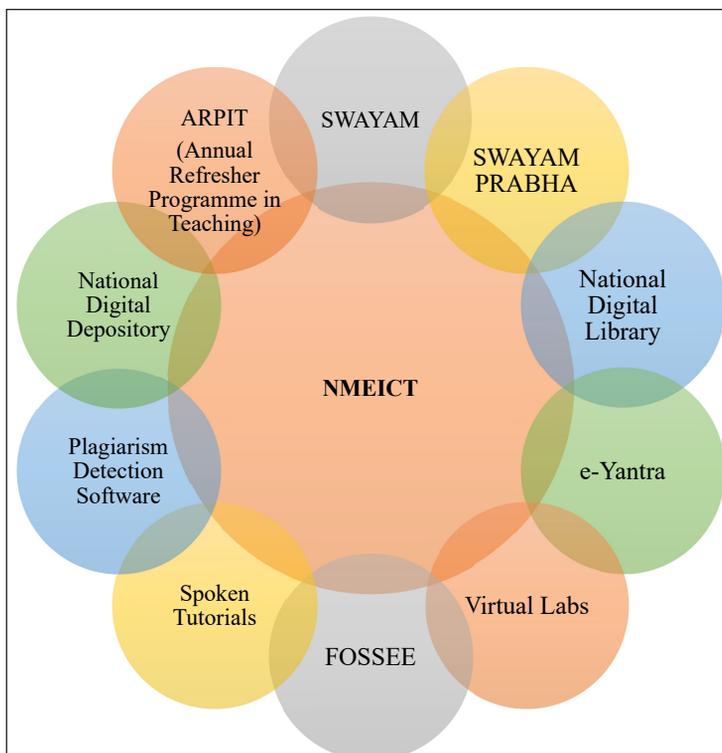
National Mission on Education through Information and Communication Technology (NMEICT) is an ambitious project of Government of India to boost the creation, dissemination and accessibility of information and learning resources. The

project has aimed at achieving the SDG4 by 2030. Under the umbrella of NMEICT (MHRD) various digital initiatives are considered to upskill the human resource involved in teaching learning process in higher Education System (figure-2).

T10kT

T10kT stands for “Train 10,000 Teachers” to enhance the teaching skills of the faculty colleagues in the core Engineering and Science subjects. It was conceptualised earlier as “Teach 1000 Teachers” programme, initiated by IIT Bombay in 2009 under the government sponsored Project “Empowerment of Students/Teachers”, NMEICT (MHRD). Later in 2013, it scaled up to 10,000 teachers by establishing 338 Remote Centres across India. A mandate to train 1,50,000 teachers over the next 3 years is proposed. T10KT uses the AVIEW framework developed by Amrita University, which provides social interactive environment through web for e-learning and use of ICT tools (nmeict.griet.ac.in, n.d.).

Fig-2 Digital Initiatives of NMEICT



Conclusion

In support of data available, the government's effort to meet the requirements are inevitable. In a report from Markets, (2022) it is noted that in 2020, the online education market was valued at INR 91.41 Bn. It is expected to reach INR 325.48 Bn by 2026, expanding at a compound annual growth rate (CAGR) of ~17.19% during the 2021-2026 period. Also, education sector has created avenues for teacher – entrepreneurship, start-ups and hence, enhance the affordability and productivity in higher education. Thus, it can be concluded that the road ahead of NMEICT and various other government initiatives lie to meet the challenges like (Chatwal, 2019):

- resistance to change,
- motivation levels of students,
- technical skills of students,
- students' understanding of technology, and
- student performance evaluation.

Dutt, (2020) has stressed on the three essential elements that are fundamentally vital to national prosperity that are: capital, raw materials, and higher education & technology. Where, Higher education and technology are more significant than the other two variables because they can assist in offsetting the lack of capital and natural resource scarcity. Therefore, digitalization of education in India will not merely be a technological shift rather it represents a fundamental transformation in the way knowledge is accessed and disseminated.

Perhaps, government initiatives such as Digital India, NDL, SWAYAM, eVidya, NEP 2020, and PPPs are pivotal in realizing the vision of a digitally empowered education system. Through these concerted efforts, India is equipping its learners with the tools and opportunities to thrive in an increasingly interconnected and knowledge-driven world, ultimately contributing to the nation's socio-economic growth and global competitiveness.

References

1. Dutt, S. (2020). Teaching-learning in Higher Education Institutions of India in 21st Century and Beyond: Some

Thoughts. Retrieved November 19, 2023 from [https://www.aiu.ac.in/documents/AIU_Publications/Reimagining%20Indian%20Universities/3.%20Teaching-Learning%20In%20Higher%20Education%20Istitutions%20Of%20INDIA%20In%2021st%20Century%20And%20Beyond%20Some%20Thoughts%20by%20Shekhar%20Dutt%20SM,%20IAS\(Retd.\),%20Former%20Governor,%20Chattisgarh.pdf](https://www.aiu.ac.in/documents/AIU_Publications/Reimagining%20Indian%20Universities/3.%20Teaching-Learning%20In%20Higher%20Education%20Istitutions%20Of%20INDIA%20In%2021st%20Century%20And%20Beyond%20Some%20Thoughts%20by%20Shekhar%20Dutt%20SM,%20IAS(Retd.),%20Former%20Governor,%20Chattisgarh.pdf)

2. Chatwal, T. (2019). Digitalization of Higher Education in India: A Boom or A Bane. *Research Journal of Humanities and Social Sciences*, 10(4), 1083–1085. <https://doi.org/10.5958/2321-5828.2019.00178.5>
3. Digital ICT Initiatives_MHRD.pdf. (n.d.). Retrieved January 30, 2023, from https://gndec.ac.in/sites/default/files/Digital%20ICT%20Initiatives_MHRD.pdf
4. K, S., and Baskaran, M. (2019). Digitalisation of Education in 21 ST Century: A Boon or Bane. <https://doi.org/10.18231/2454-9150.2019.0436>
5. Markets, R., A. (2022, February 18). India Online Education Market Report 2021-2026 - A Few Niche Players that Operate in Various Segments and Start-ups with Innovative Offerings Gradually Gaining Ground. GlobeNewswire News Room. <https://www.globenewswire.com/en/news-release/2022/02/18/2387802/28124/en/India-Online-Education-Market-Report-2021-2026-A-Few-Niche-Players-that-Operate-in-Variou-Segments-and-Start-ups-with-Innovative-Offerings-Gradually-Gaining-Ground.html>
6. Nic, L., P. (n.d.). Department of Higher Education | Ministry of Education, Government of India. <https://www.education.gov.in/en/ict-initiatives>
7. Nmeict.griet.ac.in. (n.d.). Retrieved February 16, 2023, from <http://www.nmeict.griet.ac.in/about.html>
8. State of the Education Report for India, 2022: Artificial Intelligence in Education; Here, there and Everywhere— UNESCO Digital Library. (n.d.). Retrieved February 14, 2023, from <https://unesdoc.unesco.org/ark:/48223/pf0000382661.locale=en>
9. Vikaspedia Domains. (n.d.). Retrieved January 30, 2023, from <https://vikaspedia.in/education/policies-and-schemes/initiatives-taken-by-the-ministry-of-education>
10. Walder, A., M. (2017). Pedagogical Innovation in Canadian Higher Education: Professors' Perspectives on its Effects on Teaching and Learning. *Studies in Educational Evaluation*, 54, 71–82. <https://doi.org/10.1016/j.stueduc.2016.11.001>



The Pace of Skill Development: A Significant Indicator of the Future of India

Tanushree S Bhargava*

The era is marked by a paradoxical situation wherein the students blooming out of academia find themselves ultimately unfit for industry. In the next few years, India will be the human capital with the world's largest young working-age population and viewed as the potential talent pool. Skills development is globally considered key for productive employment. Hence it is an important means for increased productivity, private-sector development, inclusive economic growth, and poverty reduction. There are several innovative methods, adopted both nationally and globally for the development of skills. However, the scale and demographic boundaries of India pose dynamic challenges that dissuade the implementation of any single successful model. The research work presented has studied skill development, its vital role in life, factors to skill development, government initiatives, and overcoming India's skill challenges.

Skill development is globally considered key for productive employment. Hence it is an important means for increased productivity, private-sector development, inclusive economic growth, and poverty reduction.

Economic diversification and structural change toward high-productivity sectors is necessary for sustainably combating poverty. This requires a better skilled and more adaptable labour force which can spur domestic and foreign investment. Linking skills development to broader education and employment, growth, and development strategies and systems is essential to ensure relevance, policy coherence, coordination, and alignment.

Studies show that effective, sustainable approaches to workforce development and employment must improve a combination of skills for the employability of individuals, and at the same time build a sustainable system for improved private-sector competitiveness. Especially, youth unemployment resulting from a mismatch between the supply of the education system and labour market

needs could in part be addressed through adequate skills development within a future-oriented, flexible, and holistic education system for lifelong learning.

What Is Skills Development?

Skills development is generally used to refer to the productive capabilities acquired through all levels of learning and training, occurring in formal, non-formal, informal, and on-the-job settings. It enables individuals to become fully and productively engaged in livelihoods and to have the opportunity to adapt these capabilities to meet the changing demands and opportunities of the economy and labour market. The acquisition of such capabilities depends on many factors, including a quality lifelong learning system and a supportive learning environment. The types of skills required for employment are presented here.:

Basic and Foundation Skills are acquired through the primary and secondary formal school system, or non-formal and/or informal learning processes (e.g. active learning, oral expression, reading comprehension, written expression, ICT literacy, active listening). These are prerequisites for acquiring further skills enhancing the prospect of sustainable employment.

Transferable Skills include the ability to learn and adapt, solve problems, communicate ideas effectively, think critically and creatively, and the ability to manage self and others. These skills enable people to adapt to different work environments as well as improve their opportunities for career-building.

Technical and Vocational Skills which are specialized skills, knowledge or know-how to perform specific duties or tasks, mainly in a professional environment. These include, but are not limited to, the traditional forms of Technical and Vocational Education and Training (TVET), and skills acquired through the secondary level of the formal school system or through non-formal and/or informal learning processes.

Professional and Personal Skills including individual attributes relevant to work such as honesty, integrity, reliability, work ethic, and judgment.

* Assistant Professor, Smt. S P Kothari College of Secondary Education, Vidya Mandir, Palanpur, Gujarat. E-mail: tanushreebhargava92@gmail.com

Skills Development as An Integral Part of Lifelong Learning

Lifelong learning takes on a broader approach than education. It is the organising principle of putting adequate integrated and systematic policy and practice into place for social transformation within a framework of sustainable development. In an education system that provides opportunities for lifelong learning, policy, and practice provide every individual and community with a flexible and diversified range of useful learning and training options throughout his or her lifetime (context-specific). A skills-development strategy, as an integral component of a national education system for lifelong learning, successfully links skills to productivity and employment creation while at the same time coping with all life situations (e.g. work, active citizenship, and family life).

Factors for Success, Principles, and Approaches to Skills Development

Adopting Demand-led Models

Active involvement of local communities, employers, unions, and other social partners is crucial for planning, carrying out, and following up on responsive skills development programmes. It helps the training providers to better understand the variety of needs in the workplace and respond appropriately. Such interaction will create win-win relationships between the world of learning and training and the world of work.

Ensuring Quality Training

Well-qualified teachers are key to improving the quality of training. Thus, investing in the training of teachers, trainers, and managers is decisive for quality. Interaction with the world of work is also crucial for improving the quality of learning and training activities. Improved quality in turn increases the attractiveness of skills training programmes. Apprenticeship training is one way to make employers more actively involved in skills development and contributing to the improvement of quality.

Enhancing the Capacity of Delivery

In many low-income countries skill training providers, both public and private, are often small and poorly equipped to meet the required needs for adequate and quality training. Investment in

infrastructure, facilities, equipment and materials to meet the ever-growing and changing demands of the world of work requires incentives and support mechanisms to stimulate and improve training capacity.

Ensuring Broad and Continued Access to Quality Training and Skills Development, Including Quality Counseling

It is essential to foster opportunities and benefits of initial and lifelong learning for all, including disadvantaged young people who have dropped out of school or are working in the informal sector under precarious conditions. The participation of women in skills training should be ensured and gender stereotyping in occupational choice should be actively discouraged.

Establishing a System for Labour Market Forecasting and Information

Up-to-date labour market information and forecasting are key to matching current and future labour market needs for skills with the supply of skills. Such a system will provide necessary information for short-term and long-term planning as well as provide disaggregated data to track changes in labour market outcomes for different population groups (women, youth, the disabled, and minority groups).

Mechanisms for Efficient Recognition, Validation, and Accreditation of Skills

Such a system is necessary to allow for multiple paths for further learning and training (formal, non-formal, and/or informal) and the mobility of the workforce. Furthermore, such mechanisms for efficient recognition, validation, and accreditation need to be developed with the active participation of labour market actors.

Government Initiatives in Vocational Education

In India, vocational programmes are conducted largely at the school level and there is a myth that they do not provide an aspiring career. Only a small proportion of the students, who are unable to cope with the conventional and general school education opt for vocational studies.

The National Skill Development Fund (NSDF) was set up to raise funds from both government and non-government sectors to meet the skill development objectives. The Directorate of General

of Employment and Training (DGET) in MoLE coordinates the training related to vocational skill development. Indian Institute of Entrepreneurship (IIE), and National Institute of Entrepreneurship and Small Business Development (NIESBUD) under MSME are engaged to promote entrepreneurship. The skill-based training and assessment models exist under various key schemes. Most of the schemes are revamped under the new NSDF as follows:

Schemes for Rural Areas

- Swarnajayanti Gram Swarozgar Yojana (SGSY) programme to enhance income for the rural poor
- The Aajeevika Skill Development Programme (ASDP) scheme offers training with public-private partnership to rural young people
- The Deen Dayal Upadhyaya Gramin Kaushal Yojana (DDU-GKY) to improve the employability of the rural population
- Livelihoods in Full Employment (LIFE) to impart skill training to unskilled workers

Schemes for Urban Areas

- Employment Skills Training & Placement Programme (ESTP) scheme to provide skills for both unskilled and upgrade the existing skills in the urban poor

Schemes for Urban and Rural Areas

- Deen Dayal Upadhyaya Antyodaya Yojana (DAY) scheme undertakes skill development of urban, rural poor

Schemes for Jammu-Kashmir

- UDDAN is a special industry initiative for Jammu and Kashmir to provide skills training and enhance the chances of employability of unemployed youth

Schemes for Minority People

- *Nai Manzil* for minority skill development, *Nai Roshni*, for minority women leadership training, and Maulana Azad National Academy for Skills (MANAS) for minority youth entrepreneurial skills up-gradation
- USTTAD (Upgrading Skills and Training in Traditional Arts/Crafts for Development) of minority people

Schemes for General: Vocational and Skill Development

- Modular Employability Scheme — Skill Development Initiative (MES-SDI) focuses on vocational training of skilled, and unskilled technicians
- Standard Training Assessment and Rewards (STAR) scheme offers skill training for youth with incentives
- The Recognition of Prior Learning (RPL) scheme is an outcome-based qualification framework where prior learning can be assessed and certified
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aims to offer meaningful, industry-relevant, skill-based training with financial assistance to secure employment
- *Hunar Hai Toh Kadar Hai* (you will be respected if you have a skill) is a nationwide initiative by the NSDC to broaden the skill development landscape, glorifies the idea of vocational skilling, suggesting that vocational training which results in jobs is better than a formal education that does not end in a job
- The National Apprenticeship Training Scheme (NATS) has been set up to provide skilled manpower for Industries

Schemes for Self-Employment

- SETU (Self-Employment and Talent Utilization) supports startup businesses, and self-employment activities, predominantly in the technology-driven areas

Schemes for Innovation

- Atal Innovation Mission (AIM) aims to innovation promotion involving academicians having a national and international reputation

Overcoming India's Skill Challenge

Our country is aggressively progressing to become a developed nation with faster, inclusive, and sustainable economic growth. In reality, the growth is pulled down by—a lack of market-desired skills. Those countries with broader vocational education systems orient themselves towards increasing generalization of the vocational curricula. The relevancy of market-driven vocational education is possible through continuous revamping of the system,

properly balancing the general and the vocational education components

Conclusion

It has been proved beyond doubt that India shall have the best young workforce possible for the next two decades or so. However, this alone would not suffice. The nation has awoken belatedly to the requirements of the skills and challenges which cannot be achieved through arbitrary governance. The global requirements of work force have to be carefully studied and analyzed and adequate steps have to be taken to impart the vocational and related skills mandated by the industries. This shall ensure a stronghold for the Indians in the global workforce and sustain the development and growth of the country. The factors that improve skill development will be a mixed strategy of all the best practices on need-based analysis and require introspections and revisions periodically. The cohesive contribution of all stakeholders will ensure that our vocational and higher education system possesses the perfect blend of necessary skills required to achieve the targeted goals.

References

1. Agarwal, T. (2013). Vocational Education and Training Programmes : An Asian Perspective, *Asia-Pacific Journal of Cooperative Education*, 14(1), 15-26, https://www.ijwil.org/files/APJCE_14_1_15_26.pdf

2. Berlia, S. (2007). Technical Vocational Education & Training (Existing Systems, Schemes, Models and Best Practices), www.aserf.org.in/articles/Paper_TVET.doc
3. Chenoy, D. (2013). Skill Development in India : A Transformation in the Making, Private Sector in Education pp 199-207, Indian Infrastructure Report 2012, Infrastructure Development Finance Company, www.idfc.com/pdf/report/iir-2012.pdf
4. Colorado Career Cluster Model (2010). <https://www.rccc.edu/sites/default/files/u251/CTE%20Carrer%20cluster.pdf>
5. Dobbs, R. et. al. (2012). The World at Work: Jobs, Pay and Skills for 3.5 billion People, McKinsey Global Institute
6. Sanghi, S. and Khurana, S. (2018). National Employment Policy for India : A perspective <http://niti.gov.in/content/national-employment-policy-india-perspective>
7. Sharma, L. Nagendra, A. (2016). Skill Development in India : Challenges and Opportunities, *Indian Journal of Science and Technology*, Vol 9(48), www.indjst.org/index.php/indjst/article/download/107324/77350
8. Brewer, L. (2013). Enhancing Youth Employability: What? Why? And How? Guide to Core Work Skills. Skills Employability Department, ILO.
9. ILO (2011). Increasing the Employability of Disadvantaged Youth. Skills for Employment Policy Brief.
10. UNESCO (2012). Youth and Skills. Putting Education to Work.
11. World Economic Forum (2017). Accelerating Workforce Reskilling for the Fourth Industrial Revolution, An Agenda for Leaders to Shape the Future of Education, Gender and Work. □

(contd. from pg. 90)

education cannot be overstated. Expanding access to quality economic education is a step towards creating a more economically literate and prosperous society.

The study of economics improves the understanding of human behaviour as well as the development of analytical and persuasive abilities, all of which are required for success in today's job market. With the current economic transition, there is an increasing demand for professional economists in a variety of disciplines such as government, finance and banking, the social sector, management, business, policymaking, and education.

References

1. Brighouse, H., and McPherson, M. (2015). The Aims of Higher Education: Problems of Morality and Justice. Chicago, IL: University of Chicago Press. □

2. Dungey, G. (2012). Connecting and Collaborating to Further the Intellectual, Civic, and Moral Purpose of Higher Education, *Journal of College and Character*, 13(3), 1-12.
3. Greene, W., and Rosen, S. (1990). Research on High School Economic Education, *American Economic Review* P&P, 80 (May), 14-23, and an Expanded Version in *Journal of Economic Education (Summer)*, 231-253.
4. Levine, P. (2014). A Defence of Higher Education and its Civic Mission, *Journal of General Education*, 63(1), 47-56.
5. Shapiro, C., and Varian, H., R. (1999). Information Rules, Cambridge MA: Harvard Business School Press.
6. The National Task Force (2012). A Crucible Moment: College Learning and Democracy's Future, Washington, DC: Association of American Colleges and Universities (AAC&U). □

Assessing the Infographic Skill in Educational Landscape for the New Age Learners

Rakhi Sawlani*

Education is the creative process to facilitate learning, acquisition of skills, knowledge, values, habits and beliefs. There are many educational methods, techniques, and classroom approaches like discussion, debate, storytelling, role-playing that help a learner in acquiring knowledge. Education also takes place under the guidance of educators but at the same time, the learners educate themselves through various other modern educational approaches. Infographics is one such approach designed with the end goal in mind to make learning interactive, easier, faster, and efficient. Infographics provide new educational environments full of information to their readers in a visual way. There is an endless variety and a wide of range of subjects that can be summarized using such an approach. Infographics have evolved to become one of the widely used approaches for spreading educational awareness through media and mass communication.

What is Infographic Technology?

Infographic technology is considered as the transformative impact of technology on the educational landscape. It has reshaped traditional learning paradigms through the infusion of digital tools into educational practices. Infographics in education is a visually engaging and concise approach augmenting student comprehension and retention, allowing complex concepts to be simplified and easily understood. It promotes active learning, encourages critical thinking, and facilitates the organization and synthesis of information. They also cater to different learning styles and provide an effective tool for presenting data and statistics. By leveraging the power of visual communication, they enhance the learning experience in education in a holistic manner. People nowadays use infographics as an alternate so they don't have to read the full text. It summarises the content as well as presents sufficiently detailed information (Zadro, et. al. 2022).

The term "infographics" is made of "information" and "graphics". Information is knowledge or intelligence gained from investigation, study, or instruction in the form of facts or data. Graphics

** Assistant Professor, Pillai College of Education and Research, New Panvel, Mulund West, Mumbai- 400078 (Maharashtra). E-mail: dr.rakhisawlani@gmail.com*

represents visual representations of data, information or knowledge in a precise manner. Hence, Infographics are graphic visual representations of information, accurate data or knowledge intended to present information clearly, easy to understand and fun to read format. They simplify complex information and make it easier for the layman to get an abstract idea of the concept. So, infographics can be taken as a way of presenting a particular piece of knowledge/content or data/results in a visual manner to specific categories of readers from different divisions of the society using graphic elements with the help of role-specific or product-specific language.

Educational Infographics

Infographics refers to visual illustration of data and ideas that promptly conveys complicated information to the learners in a simple, attractive, and comprehensible way. The scientific concepts presented in infographics are focused on complete coverage of content. The aim of educational infographics is to improve students' understanding of scientific information, ideas, and concepts to enhance learning experiences, retention ability, retrieving information, and ability to think, develop ideas, and organize ideas logically. Infographics contain visual stimuli directly affecting learners' motivation to look at the visual content, assess its components, and perceive the relationships among its various elements. Its focus is on providing a clear overview of visual instructions at different educational levels and measuring the impact on objectives such as student achievement, visual thinking, contemplative thinking and students' motivation.

Infographics are planned and designed in such a way that it seems like reading a story on a particular topic with beautiful pictures. For example, if infographic contains information about nature, then it includes elements and colors from nature. The colour scheme is limited to a maximum of three colours avoiding too many colours as it can make an infographic confusing. Graphs and charts display the data in a unique and creative way.

Designing the Infographics

An educational infographic is designed to convey

educational information effectively in a visual way helping students remember and learn facts, figures, and other data. They use elements like texts, charts, graphics, pictures, drawings, diagrams, timelines, statistics, maps, samples, templates, illustrations, etc., that give life to educational information. It has three core components:

- Visual: Color Coding, Graphics, Reference Icons, Colors.
- Content: Time Frames, Statistics, References.
- Knowledge: Facts, Deductions.

The two different types of graphics used are termed “reference graphics” and “theme graphics”. Reference graphics are icons used for pointing to certain data. Theme graphics represent the underlying visual representation of data. Statistics and facts are included in content that can be obtained from sources like news reports or census data. Knowledge is known to be one of the most important aspects of educational infographics containing some sort of insight into the data or content that they are presenting. In the case of large and complex data, it can be challenging to represent and create information that is accurate, dynamic, interactive and simple to understand. It also uses technology to create customized visual representations of educational information for individual users specifically designed to cater to individual interests and needs.

Reaching to All Learning Preferences

Infographic technology has enormously expanded the array of teaching and learning resources. In present times the learners and facilitators have access to various types of resources for all learning styles instead of just book learning. Visual learners watch video content, kinaesthetic learners learn from interactive content, auditory learners find audio podcasts to be helpful. Hence, infographic technology is so effective that it often outdoes the one-to-one teaching style which can be difficult to achieve in a classroom environment. While many students struggle to understand aspects of the curriculum, it can be a challenging task to offer information that tempts to all the learning preferences. Infographic Technology produces content adapted to help specific learners. This kind of personalized learning is effective in education and is hard to attain in a classroom environment.

The research studies suggest an improvement in the level of learners using various types of infographics. Infographics have helped in raising awareness of

medical literature (Simon Huang, 2018). Infographics gather greater social media attention as compared to original research articles on similar topics (Kunze, et. al., 2021). Infographics are suitable for the development of a variety of skills and capabilities including information literacy, digital and visual literacy, research skills, creativity, critical thinking and communication skills (Evelina and Judita, 2022).

The interpersonal learning that students get in a classroom is still invaluable but can be much more effective when combined with the benefits of infographic technology. This technology has revolutionized the ways students learn and engage with course content and is being used widely in schools and universities to assist with learning. As a result, funds are being invested in this technology brought into schools, and students are more technology-literate than ever. Infographic technology has all the potential to become a bigger part of learning and the way that students engage with educational content. It can be combined with other classroom learning methods to help improve the standards of teaching in schools and higher education.

Application of Infographics in Education

Infographics of various kinds are commonly used in different fields of educational activity. A few of them are listed below:

Data Infographics contains numerical values effectively displayed through charts, graphs, plots, graphic indicators and tables. The purpose is that information can be gained at a glance, figures and texts are condensed into graphic imagery. For e.g. Effects of Taxes, you tube Surveys, Internet use by children/ adolescents/ adults.

Pictorial Infographics shows the data in picture form rather than text. It helps to induce the learner to think by presenting the viewpoint in a small space. It serves a clear purpose of closely integrating pictorial, verbal and the statistical descriptions of data sets about People, transport, computer, ecology, medicine, health, shopping, etc.

Spatial Infographics can be used to represent set of data such as time-series data, statistical distributions, hierarchical data. The users can visually present various geographically distributed information through maps.

Mass Media Infographics: The mass media content can be shared on websites to interact effectively

with large target audience through digital platforms. Its purpose is to reach to the consultants, trainers, engineers, scientists, educators, students, bloggers and social media fans.

Typography Infographics : It uses written languages readable and legible so it looks appealing when used for book publication, distribution or display. The process involves activities such as selecting point sizes, typefaces, line lengths, letter-spacing, line-spacing, spacing between pairs of letters, arrangement, appearance, style of the letters, symbols and numbers.

Process Infographics : They break down a complex process into simple pieces of information in sequential steps. It is mainly used for scientific concepts. These infographic pulls out the most important written information about the process and presents it in an interesting format. It contains a series of boxes or shapes connected by arrows. Each box or shape represents a different step in the process. The arrows show the order in which the steps should be completed.

Educational Infographics in Terms of Blooms Taxonomy

Educational infographics cater to the needs of students as per Bloom’s Taxonomy, proposed by Benjamin Bloom (1956) that suggests a theoretical framework for learning and identifies three domains of learning:

Cognitive Domain

It revolve around knowledge, comprehension and critical thinking on a particular subject. It is responsible for the development of intellectual skills.

Table 1. Levels of Cognitive Domain Showing Information Retention through Educational Infographics

| Levels | Learning outcomes |
|---------------|--|
| Knowledge | <ul style="list-style-type: none"> ➤ Learners remember and recall facts shown on infographics. ➤ Learners state infographic information, add clarity and perspectives. |
| Understanding | <ul style="list-style-type: none"> ➤ Learners compare & contrast infographic information. ➤ Learners discusses & explain complex infographic concepts. ➤ Learners illustrate data/facts/figures shown on infographics. ➤ Learners interpret/ communicate the specific meaning to others. |

| Levels | Learning outcomes |
|-------------|---|
| Application | <ul style="list-style-type: none"> ➤ Learners use infographic information to explore cause-and-effect relationships. ➤ Learners summarize the key points from Complex topics. ➤ Learners infer accurate conclusion/ hypothesis from the infographic information being presented. |
| Analysis | <ul style="list-style-type: none"> ➤ Learners connect pieces of information together in order to determine the intended meaning of the information. |
| Evaluation | <ul style="list-style-type: none"> ➤ Learners evaluate the accuracy of statements or descriptions to measure the authenticity of information. |
| Creativity | <ul style="list-style-type: none"> ➤ Learners stimulate imagination using images, half-told stories, statement of a controversial issue or challenge. ➤ Learners create interactive infographic on their own to explain a concept they have learned. |

Affective Domain

It describes the way pupil react emotionally and involve learning occurring at the behavioral level. It aims to increase the awareness, improve attitudes, emotions/feelings and values starts to adapt within their own schema through the infographics.

Table 2. Levels of Affective Domain Showing Internalization through Educational Infographics

| | |
|------------------|--|
| Receiving | <ul style="list-style-type: none"> ➤ Learners demonstrate a general awareness of information and ideas presented in the infographics. |
| Responding | <ul style="list-style-type: none"> ➤ Learners engage with each other through discussions and activities, interpret and connect the learnings. |
| Valuing | <ul style="list-style-type: none"> ➤ Learners associate the infographic information as being valuable to their current and future learnings. |
| Organization | <ul style="list-style-type: none"> ➤ Learners internalize and reflect on the values learnt through infographics. ➤ Learners act on their beliefs and values by consistently aligning with their new learnings. |
| Characterization | <ul style="list-style-type: none"> ➤ Learners act on their beliefs and values by consistently aligning with their new learnings. |

Psychomotor Domain

The Psychomotor domain considered as the highest level of the three hierarchical model deals with skill-based learning including movement and coordination. The objectives usually focus on change or development in behavior and skills. Various skill development areas using educational infographics are mentioned below.

Table 3. Levels of Affective Domain Showing Internalization through Educational Infographics

| | |
|----------------|--|
| Imitation | ➤ Learners follow the infographic information, repeat the action, process or activity. |
| Manipulation | ➤ Learners carry out the task systematically as instructed in the infographics. |
| Precision | ➤ Learners perform exact activity and demonstrate to the other learners. ➤ Learners relate and combine associated activities in a harmonious way. |
| Articulation | ➤ Learners relate and combine associated activities in a harmonious way. |
| Naturalisation | ➤ Learners perform the skills at high level naturally. |

Infographic technology has many benefits in teaching learning process and overcomes the boundaries that traditional mode present to us. This technology is now being used in schools and home for educational purposes and, as technology advances in the future, the teaching resources that we have access to also become better and advanced. Therefore, in today's world, infographic skills are considered as most essential skill.

Benefits of Educational Infographics in Classroom

Educational infographics prove to be a great tool to help teachers explain difficult concepts in an easier way. They are perfect for use in classroom activities, such as creating charts or diagrams, comparing and contrasting information, exploring cause-and-effect relationships, summarizing research findings, etc. They are useful in other educational settings, as they feature more engaging visuals than traditional text-based formats. This eventually increases student engagement and understanding of the material being

taught or presented through well-designed visuals. Educational infographics have various benefits and can be used for a variety of purposes in the teaching-learning processes:

- present information in a clear way improving cognition by utilizing different graphics;
- enhance the human visual system's ability to see patterns;
- design with fewer assumptions about the readers' knowledge base;
- easy to compare with other type of visualizations;
- useful in presentations, plans and other documentation;
- takes into consideration multiple perspectives;
- examines the implications and consequences of a belief or action;
- uses reason and evidence to resolve discrepancies;
- re-evaluating a views/opinion in light of new information;
- popular in social/digital media marketing, social media management; and
- also useful for analysts, project managers, project participants, curriculum designers/ specialists, statisticians, and project directors.

Conclusion

Infographics are an effective way to educate or inform students. Educational infographics provide an engaging platform for learners who may find traditional teaching-learning methods uninteresting or challenging to comprehend. They also make topics more exciting and visually stimulating for students to remember the information. Daily we receive a lot of information in the form of text or images, we only read 40% of it and ignore 60% part of it. Educational infographics ensure the holistic development of students and are considered a promising educational tool suitable for understanding diverse subjects in higher education. They fill the gap between what students are prepared for in higher education and what they might need in real life.

References

1. Huang, S., et. al. (2018). The Effect of an Infographic Promotion on Research Dissemination and Readership: A Randomized Controlled Trial, *CJEM*, 20(6):826-833. Doi: 10.1017/cem.2018.436.
2. Jaleniauskiene, E., and Kasperuniene, J. (2023). Infographics in Higher Education: A Scoping Review,

- E-Learning and Digital Media*, 20(2), 191-206. <https://doi.org/10.1177/20427530221107774>
3. Joshi, M., and Gupta, L. (2021). Preparing Infographics for Post-publication Promotion of Research on Social Media, *J Korean Med Sci*. doi: 10.3346/jkms.36.e41.
 4. Kunze, K.,N. et. al. (2021). Infographics are More Effective at Increasing Social Media Attention in Comparison with Original Research Articles: An Altmetrics-Based Analysis. *Arthroscopy, Epub*, 37(8):2591-2597. doi: 10.1016/j.arthro.2021.03.056.
 5. Lee S.H, et. al. (2022). Perceptions of Using Infographics for Scientific Communication on Social Media for COVID-19 Topics: A Survey Study, *J Vis Commun Med*, 45(2):39-47. doi: 10.1080/17453054.2021.2020625.
 6. Traboco, L, Pandian, H, Nikiphorou E, and Gupta L. (2022). Designing Infographics: Visual Representations for Enhancing Education, Communication, and Scientific Research, *J Korean Med Sci*. doi: 10.3346/jkms.2022.37.e214.
 7. Spicer, J.,O., and Coleman, C.,G. (2022). Creating Effective Infographics and Visual Abstracts to Disseminate Research and Facilitate Medical Education on Social Media, *Clin Infect Dis*. doi: 10.1093/cid/ciac058.
 8. Zadro, et. al. (2022). How do People Use and View Infographics that Summarise Health and Medical Research? A Cross-sectional Survey, *BMC Med Educ*, 14;22(1):677. doi: 10.1186/s12909-022-03744-6.
 9. <https://www.envisionup.com/blog/5-key-elements-of-a-successful-infographic/>
 10. <https://www.eidesign.net/understanding-basics-blooms-taxonomy-application-elearning>
 11. <https://journals.sagepub.com/doi/full/10.1177/20427530221107774>
 12. <https://www.merriam-webster.com/dictionary/>



UNIVERSITY NEWS

(A Weekly Journal of Higher Education published by Association of Indian Universities)

(Published on every Monday)

SUBSCRIPTION TARIFF

(effective from April 01, 2020)

| Period of Subscription | For Universities / Colleges / Libraries / Institutions / Organizations etc. | For Academicians / Teachers / Students / Individuals (At Residential Address only) |
|------------------------|---|--|
| 1 Year | Rs. 1250.00 | Rs. 500.00 |
| 2 Years | Rs. 2200.00 | Rs. 900.00 |

Single Issue: Rs. 30.00

- The payable amount is required to be remitted **in advance** through any of the Payment Modes.
- After remitting the payment, please send the payment details (Transaction No. / UTR No. with date / Cash Deposit Receipts etc.) alongwith complete Name and Address of the Institute / individual with Contact No. / Mobile No. for easy linkage of remittance. Old Subscribers may also provide their Subscription No. (if available).

The Journal may also be subscribed through our website in just 4 Steps:

- Step 1 : Open the URL www.aiu.ac.in
- Step 2: Click on the Payment Tab available at the top of the Home Page.
- Step 3: Select University News Journal.
- Step 4: Fill in the requisite details and click Pay Now.
(Payment may be made by any of the payment Modes (UPI / Debit Card / Credit Card / Net Banking).

For any query regarding subscription, please write to: sunsub@aiu.ac.in, publicationsales@aiu.ac.in

Empowering Tomorrow

Kiran Bedi, (IPS Retd), Former Lieutenant Governor of Puducherry delivered the Convocation Address at the 2nd Convocation Ceremony of the Somaiya Vidyavihar University, Mumbai on September 06, 2023. She said, “You are the true future of this country. You are now in the field, and at this very moment, you represent the true spirit of our nation. How you mould your future, how you do your duty, the actions you take, and your contributions to building a *karmic* bank for yourself are of paramount importance, because it will be the nation’s *karmic* bank. Never make any mistake on purpose. If you steer clear of errors made with conscious choices, our nation will progress significantly.” Excerpts

I felt really good coming here to deliver the 2023 Convocation Address of the Somaiya Vidyavihar University, Mumbai. I did not know or expect that it would be such a grand function and I would get to witness this kind of a celebration. I thank the Vice-Chancellor Prof. V. N. Rajasekharan Pillai who gave me this opportunity, and I have a lot of respect for him. I think that your university is very lucky to have Dr. Pillai because I have seen him work for the last two decades, ever since he was the Vice Chancellor at Indira Gandhi National Open University. Everyone should be aware of the fact that he is a pioneer not only for this country but for the world. There is no parallel to what he has done for the Open, Distance and Digital Education in the country. Back then, while I was in the office, we deliberated on establishing community colleges. We recognized the plight of children studying in government schools, lacking recognition in colleges and not securing the grades they deserved.

Dr. Pillai opened not just one, but 4 community colleges in the next few weeks, and inaugurated all of them himself. These colleges have become Navjyoti Skills Academies, as they are teaching artificial intelligence, etc. He has extended and popularised the Community Colleges across the country during those days. This is the perfect opportunity to thank Mr. Pillai for the glorious work he has done.

Somaiya Vidyavihar is such a grand university or rather a city of education. I salute the Somaiya family for giving everything towards creating this establishment. I extend my heartfelt gratitude to the Chancellor Mr. Samir Somaiya for his leadership and guidance in this endeavour. I urge Mr. Samir Somaiya’s kids to continue the great work being done here. A written speech would never have worked here, because it would not have matched the enthusiasm, excitement and positive vibe of this place.

Let me share with you Swami Vivekananda’s message, which the late Mr. Somaiya himself might have sent from heaven. (He is surely the education minister up there) I’m conveying my message to you now, “Don’t wait for anybody or anything. Do whatever you can.

My grandfather, like many, inherited significant wealth, and my family also inherited a lot. My father, however, worked in a factory. When my parents got married, my father contributed to the expenses. However, the ownership of all property lay with my grandfather, who managed everything single-handedly.

In that pocket money, school fees were also not covered. At that time, my father believed in educating his 4 daughters in the most expensive school. But my grandfather did not allow that and said there was no need for the daughters to go to school as we have so much money and inheritance. My grandfather did not care about us girls. My father said to my grandfather, “You might have made decisions for me, but I won’t let you make decisions for my daughters.”

The message that Swami Ji or Somaiya Ji has sent from heaven, is that even if you have nothing, you can do anything. I have seen it personally how my parents dropped me everywhere on a cycle’s handle. I can never forget what my parents have done for me. Back then, I had decided that once I grew up, I would make my parents proud and their name would live on forever. Eventually, after our grandfather passed away, the land and money were distributed among my father and his brothers. But the fact was that we had already learnt our culture – hard work and honesty get you the fruit. Back then, I never imagined I would engage in business because I wasn’t lured by wealth. I had never even seen much money; I witnessed my parents working tirelessly. This dedication... Studying political science, I secured scholarships, both in academics and sports. I dared to challenge the university’s rule, demanding two scholarships – one for sports and one for academics.

It wasn’t that my parents lacked resources at the time, but I still wanted to make it on my own. This culture was taught to me by my parents, my school and my university. You are a part of such a university which teaches you this culture. Do not forget this. You should be grateful and thank the individual who started this massive university from a small school in a village. You should take a selfie with him.

When I felt a similar emotion of serving our country, I could not find anything better than the police service. I remember my own convocation, and what I was feeling at the time. If you have read your university's oath and remember it properly, you will definitely succeed in life.

You understand the gravity of an 'oath,' don't you? It's a solemn commitment, a breach of which entails consequences under Section 506 of the Indian Penal Code – Breach of Trust. When you break it, you're in trouble. I also have taken an oath. An oath for which I have stood for always. And what about you? You're bound by Section 506 IPC, as your photos in this room testify. Frame it, and don't forget to attach your photos. By doing so, you confirm that you've studied this.

You do any job...if you uphold your oath, you embody a true Indian. A true Indian! You can surmount any obstacle in any occupation. Within you lies opportunity! Remember, the university's oath has come from the founder of this institution. Adhere to it.

Hone your skills diligently; don't let them go to waste. You need to earn and provide opportunities for others to work as well.

Allow me to share two mantras after all this reflection:

The first mantra is 'ABCDs of Freedom'. Your university provides these opportunities – don't overlook them.

You have a freedom of opportunity in the new NEP, which did not exist during our time. I will tell you an anecdote; when I was studying in ninth grade, I was very weak at mathematics. I was given the option of opting for 'Household Studies', which teaches you how to become a homemaker. But I wanted to make a change in the country, I wanted to work in the government. I wanted to earn my house's budget, not manage it. And that is why, I left that school.

A means ability. Always keep learning, especially for girls. Education is a must. Earn first then marry. Earn first then become parents. Before you become someone's wife or mother, you need to earn first. Independence is key. Equal companionship is necessary. Don't cuff yourselves. Keep studying and be free.

B means boundaries. Especially for boys. Boys should understand what boundaries mean. There are boundaries legally, socially and monetarily.

C means conscience. Know yourself first. Your conscience, if it is clear, will always tell you to stop doing something if it is wrong. Always listen to your inner self. When you are capable, if you make a mistake, you will be held accountable. Your conscience will interrogate you – "Did you ever introspect and realize that you were in the wrong?"

D means duty. What is your duty? As a son? As a daughter? As a wife? Mother? Teacher? Father? Government official? Businessperson? Know what your duty is.

If you want freedom – follow these ABCDs.

The second mantra I want to impart to you is the 3M theory.

Mastery of your skill. Let me emphasize this – whatever task you undertake, master it, and keep learning. If you don't become proficient, if you don't earn, what is your purpose in life? Meaning of life. What is the purpose of life? Is it to amass wealth, take leisurely drives etc.? Your purpose in life needs to include the act of giving back to your country. 'Deshbhakti' is a must.

Membership of a community. Connect through networking, continue your education, and strive to be friends, not just with relatives, but with friends who appreciate your prestige, be it on a spiritual level or a cultural level. Networking is key. You will never be alone, even when you are old.

And one piece of advice I have for all men – if you want to run a successful, or rather a peaceful household, learn the art of cooking. When a woman works and earns an income, she too returns home exhausted. Just as you feel tired, she does too. Therefore, it's essential that both partners contribute to running the household or share the expenses for hiring help. This way, both...

It is my request to universities that in Home Science, cooking classes should be open to both boys and girls. Nowadays, we encounter issues when both partners fail to manage the household together. If someone says, 'You should manage this,' remind them, 'It's your responsibility to manage this too.'

Remember these two mantras. Actually, I know you will remember them because I have told you what Section 506 of the IPC means!

I extend my heartfelt thanks to all of you. Your warm and respectful invitation has been a great honour. You have achieved remarkable success. You are the true future of this country. You are now in the field, and at this very moment, you represent the true spirit of our nation. How you mould your future, how you do your duty, the actions you take, and your contributions to building a karmic bank for yourself are of paramount importance, because it will be the nation's karmic bank. Never make any mistake on purpose. If you steer clear of errors made with conscious choices, our nation will progress significantly. When you celebrate 100 years of independence, you will celebrate the work you have done and will get to say that yes, my country is indeed great." □

Capacity Building Programme on Research

A twelve-day Capacity Building Programme on 'Research in Practice (Interdisciplinary)' was organized by the Programme and Extension Cell, Department of Education, Central University of Jharkhand, Ranchi through online mode, recently. The main objective of the programme was to enhance the skills, competencies, and expertise of the faculty members, research scholars, and other stakeholders of colleges, universities, and other Higher Education Institutions of the country on the practical aspect of research, especially from interdisciplinary perspectives. Around 175 participants from universities and colleges across 23 Indian states participated in the programme. A total of 31 resource persons contributed to the programme by enlightening and enriching the participants on the latest perspectives of research in practice in the programme. Various stalwarts of the education fraternity were the resource persons of the programme who explained different concepts of research in practice.

Padma Shri Prof. Aditya Prasad Dash, Former Vice Chancellor, Central University of Tamil Nadu was the Chief Guest of the Inaugural Session of the programme. Prof. Dash, in the inaugural address, expounded on the paramount importance of practical research from an interdisciplinary perspective and how it can revolutionize the world of research and academics. He said that despite the growth of universities and colleges in India, the research scenario is still not encouraged enough and there is also a lack of patent culture in the country. Among 45,444 patents filed in 2016-17, 71% were filed by foreigners. Prof. Dash shared his concerns about the existing gap between theory and practice in research. He stressed the need for teamwork and effective communication in research. He said that all subjects aren't equal but interdisciplinary and trans-disciplinary research should be encouraged to bridge them together. According to him, every Ph.D. student should write at least one popular article. He also shed light on achieving the 17 goals of SDG by 2030 by establishing an efficient relationship among its five pillars: people, prosperity, peace, partnership, and the planet. He concluded his speech by addressing the

sad reality of true geniuses and talents like Vasistha Narayan Singh in our country highlighting the problem of brain rusting.

The Presidential Address was delivered by the Vice Chancellor, Prof. Kshiti Bhusan Das, Central University of Jharkhand, Ranchi who urged the participants to imbibe the knowledge to be shared in the programme and apply the same in their profession for the greater development of the self and society. He shared his belief on how practice makes a man professional and drew attention to UGC's proposed scheme 'Professors of Practice' according to which scholars with 15 years of experience do not need a Ph.D. to be appointed as professors. He elaborated on how embedding a research-based approach in the teaching-learning process enhances the abilities as well as skills of the concerned professionals. Prof. Das focused on the benefits of continuous professional development as proposed in NEP-2020. He advised educators to collaborate with the students as well as colleagues to promote research which has taken a backseat in today's education system. He reiterated the promotion of '*Bharatiya Gyan Parampara*' for the progress of the nation.

The main focus areas of discussion in the programme were, Formulation of Research Titles in Various Types of Researches, Operationalizing Variables and/or Constructs and Hypothesis Formulation, Sampling Process in Research, Research in Practice—A Tool for assessing Academic Performance (UGC Regulations 2018, 2010, 1998 and Others), Developing Research Proposal: The Key Considerations, Publishing Research Outcomes in High Impact Journals, Determining Methodology of Research in Research Process, Referencing Styles (APA, MLA, Chicago, Harvard and others), Book/ Document Review: Objective, Style and Approaches, Review of Research to Improve Quality of Research, Plagiarism in Research (Interpretating Plagiarism Reports), Data Analysis in Research: Process and Techniques, Preparation of a Research Paper for Publication in Journal, Use of Statistical Methods for Analysis of Data, Research Tool Development Considerations and Practical Instances, Open Access Materials / Creative Common Licensed Materials for Research, etc.

The Valedictory Session of the programme was graced by the Chief Guest, Prof. A K Pandey, Vice Chancellor, Vikram University, Ujjain, Madhya Pradesh. He inspired the participants by suggesting that research requires patience and is a time-consuming affair, therefore, cooperation or collaboration is important in the process of conducting research. The active involvement and cooperation of Prof. Kshiti Bhusan Das, Vice Chancellor, Central University of Jharkhand, Ranchi led the programme towards its success in the self-sustaining mode. Prof. Tapan Kumar Basantia, Department of Education, Central University of Jharkhand was the Coordinator of the event and Dr. M Ramakrishna Reddy, Assistant Professor, Department of Education, Central University of Jharkhand was the Co-coordinators. The programme acted as a platform to acquaint the faculty members of Higher Education Institutions across the country with the contexts, processes, outcomes, issues/problems, challenges, and prospects of research in practice from interdisciplinary perspectives.

National Conference on Perspective and Practices in Vocational Education and Training

A two-day National Conference on ‘Perspective and Practices in Vocational Education and Training’ is being organised by the PSS Central Institute of Vocational Education, Bhopal from February 01-02, 2024. The event will provide a platform to share knowledge, engage in critical discussions, and collaborate on strategies for improving the quality of teaching vocational education and training.

Vocational Education and Training (VET) is a crucial component of education systems worldwide, aiming to prepare individuals for specific occupations. The National Education Policy-2020 (NEP-2020) recognizes the importance of VET in providing learners with practical skills, enhancing employability, and developing entrepreneurial skills. It emphasizes the integration of vocational education into mainstream education to create a more comprehensive and flexible teaching-learning system. The Themes of the Event are:

- Integration of Emerging Technologies in Curriculum.
- Competency-based Assessment and Evaluation.
- Technological Advancements in Vocational Education.

- Entrepreneurship Development and Small Business Management.
- Green Skills and Sustainable Practices.
- Inclusive Education and Diverse Workforce.
- Emerging Trends in VET with reference to NEP-2020.
- Integration of Vocational Education in schools as per NCF-2023.
- Best Practices in VET.
- Digital Skills in Vocational Education and Training.

For further details, contact, Dr. Vinod Kumar Yadav, PSS Central Institute of Vocational Education, Shyamla Hills, Bhopal- 462 002 (M.P). Mobile No: 09911593695, E-mail: nc2023@psscive.ac.in. For updates, log on to: www.psscive.ac.in

Youth Leadership Coaching

Youth Leadership Coaching is a process that offers young individuals a structured and supportive path to personal growth and leadership development. It equips them with the skills, confidence, and mindset needed to excel in leadership roles and make a positive impact on their communities and the world. Young people have the energy, creativity, and passion to address pressing issues, inspire their peers and shape the future. However, effective leadership doesn't happen by chance; it requires nurturing, guidance, and support. This is where leadership coaching makes the difference. By engaging in Youth leadership coaching students can maximize their potential, develop essential skills and gain the confidence and clarity needed to succeed academically, personally, and professionally.

Coaching Approach

- Strength-Based Coaching.
- Transformational Coaching.
- Goal-oriented Coaching.
- Feedback and Reflection.

Key Aspects of Youth Leadership Coaching

- Self-awareness.
- Goal Setting.
- Personal Development and Confidence.
- Leadership and Communication Skills.
- Emotional Well-being and Stress Management.
- Problem Solving and Critical Thinking.

For more details, contact Ms Jyoti Sapra, Coach by E-mail: jyoti@pyorcoaching.com. For updates, log on to: www.jyotisapra.com.

Vishwa Rang Samman-2023

The '*Vishwa Rang*' Mahotsav for literature, art, culture and language teaching, is being organized by the Rabindranath Tagore University, Bhopal and Scope Global Skills University, Bhopal from December 21-24, 2023. The event may provide a platform for writers from across the world to discuss the status of Hindi literature. The *Vishwa Rang Samman-2023* will be given to writers who have done unprecedented work

in Indian languages. The '*Meet the Author*' sessions will be organized where conversations with famous authors will be organized for youth. On this occasion, the book titled '*Vishwa Mein Hindi*' will be launched elaborating on the status of Hindi in more than fifty countries of the world has been assessed. The poster of *Vishwa Rang- 2023* may also be launched by the team of *Vishwa Rang*.

For further details, contact Dr. Santosh Chaubey, Director, Vishwarang, Rabindranath Tagore University, Mendua, Bhojpur, Bhopal, Madhya Pradesh. Mobile No: 09826332875, E-mail: info@vishwarang.com. For updates, log on to: www.vishwarang.com.

AIU News

Round Table Conference of Vice Chancellors

A three-day Newly Appointed Vice Chancellors' Round Table Conference was organized by the University of Kashmir, Srinagar (J&K) from October 17-19, 2023. Vice Chancellors from various Universities/Institutions, Deans of various schools of the University and Heads of all Departments, Faculty Members and Officers of the University of Kashmir, and guests from the UT administration were present during the event. The Vice Chancellor, Prof. Nilofer Khan welcomed the Chief Guest, Shri Manoj Sinha, Hon'ble Lieutenant Governor of UT of Jammu and Kashmir and Chancellor of the University of Kashmir. Dr. Amarendra Pani, Joint Director and Director (I/c), Research Division, AIU was the Convenor and Dr. Usha Rai Negi, Assistant Director, Research Division, AIU was the Coordinator of the Event. Dr. Nisar Ahmad Mir, Registrar was the Coordinator of the event from the host University.

The Welcome Address was delivered by Prof. Mohammad Farooq Mir, Convenor of the Host University. Prof. Mir, in his address, appreciated the august presence of the Hon'ble Chancellor of the University, Shri Manoj Sinha, Vice Chancellor of the University of Kashmir, Prof. Nilofer Khan, Secretary General, AIU, Dr. Pankaj Mittal, and Vice Chairman Higher Education Council of UT of J&K, Prof. Dinesh Singh in the mega event. Prof. Farooq also welcomed the newly appointed Vice Chancellors of different Institutions /Universities of the country. He also highlighted the importance of the conference

in the context of the New Education Policy (NEP-2020) which focuses on the strong linkage between the institutions for making the country an educational and technological hub and highlighted that this policy (NEP-2020) is based on the fundamental pillars of Access, Equity, Quality, Affordability and Accountability, which is in line with 2030 Agenda for Sustainable Development and seeks to transform India into a thriving knowledge society and a global knowledge power.

The speech of Prof. Dinesh Singh resonated deeply with the audience, encouraging all to take the maximum benefit of the all-important round table conference of the newly appointed Vice Chancellors of the Country. In his speech, Prof. Singh emphasized the need to take on new challenges in the education and technological sector to make this nation rise. Prof. Singh had a special focus on the New Education Policy-2020 (NEP-2020) and thrust the newly appointed Vice Chancellors to implement this in letter and spirit for the overall benefit of the nation. Prof. Singh as a Vice Chairperson of the Higher Education Council of UT of J&K lauded the role of UT administration, particularly Shri Manoj Sinha for appointing competent Vice Chancellors of Universities of Jammu and Kashmir who can play a vital role in framing of policies in the academic and research sector of UT of J&K.

Dr. Pankaj Mittal, Secretary General, Association of Indian Universities (AIU), New Delhi in her speech briefed the audience about the mandate of the event.

Dr. Mittal highlighted the activities undertaken by AIU for the overall growth of the higher education sector of the country. She thanked the university administration for agreeing to host the institute for such an important conference and arranging all the facilities for conducting sessions during the conference

Prof. Nilofer Khan, in her Inaugural Speech, briefed the guests and the audience about the initiatives taken by the University of Kashmir in the education and research sector. Prof. Khan also mentioned in her speech how the University of Kashmir with the support of the Chancellor of the University achieved good NIRF and NAAC rankings. The development of some innovative courses and departments was part of her speech. She mentioned that the University of Kashmir has left no stone unturned to motivate the faculty members to achieve real feats in the research sector by giving the example of declaring several of the faculty members of the University among the top 2% of Scientists by Stanford University. The grants received by the University from different funding agencies were also part of her inaugural speech. Prof. Khan mentioned that more needs to be done in the education and social sector to keep into consideration the societal need to make our country proud. The Vice Chancellor assured all the newly appointed Vice Chancellors of full support and cooperation during the three days by the University administration and firmly believed that the University of Kashmir would make all efforts to implement the suggestions and policies documented at the end of the event. She thanked Dr. Pankaj Mittal for choosing the University of Kashmir for the event and assured her of full cooperation in the future for such events and also appreciated the role of Prof. M Farooq Mir for organizing the event. She especially thanked Shri Manoj Sinha, Chancellor of the University.

The Inaugural Speech was delivered by the Chancellor of the host university. He said, "Education in India should be our aim" and called upon Universities and colleges to align with NEP-2020. He also highlighted that India should be our aim to increase share in the multi-trillion-dollar global education sector. Shri Manoj Sinha appreciated the endeavor of the Association of Indian Universities and the University of Kashmir to bring together the Vice Chancellors on a common platform to deliberate on University Governance, Collaboration, and promoting

innovation in the academic world. The Chancellor also elaborated on how education institutions across the world are undergoing radical transformations. He stressed that Universities and Colleges need to formulate strategic plans, organizational readiness for adjustments aligned with NEP-2020 to stay relevant in a constantly evolving educational mechanism. Shri Sinha statistically highlighted that more than 13 Lakh Indian students are studying in 79 countries, As per an estimate of 2020, students studying abroad are spending USD 30 billion annually. He also added that because of lack of promotion and despite having the largest number of higher education institutions, not a single institution in the country is included in the top 10 education institutions across the globe. The Chancellor also highlighted the number of steps that have been undertaken by the UT administration to overhaul the education and research system. He focused on the demand for education outputs, industry requirements, innovation, and new-age skills and showed flexibility and resilience to meet the needs of tomorrow. He thanked the University of Kashmir for taking the lead in this regard.

Dr. Nisar Ahmad Mir proposed the Vote of Thanks for the session. He briefly highlighted the achievements of the University under the leadership of Vice Chancellor and Chancellor of the University. Dr. Mir as Registrar of the University assured the Hon'ble Chancellor that more will be done in the future to make education and research more vibrant with societal benefits.

During the Technical Session, Prof. Dinesh Singh, Vice Chairman, J&K Higher Education Council and Former Vice Chancellor, Delhi University, Delhi spoke on the topic 'Strategic Planning and Vision Setting as per NEP-2020'. He had a detailed discussion on NEP in particular and the effective role of Vice Chancellors in general in a newly recruited Vice Chancellors Round Table Conference. Prof Singh elaborated on the ways and means that can be initiated to improve the quality of teaching and research at the university. The speaker started his talk as NEP contains pearls, it's a remarkable policy for taking education forward in higher educational institutions. Prof Singh expressed a kind of shock and surprise about the reason that prevented us from going in the direction of NEP before the policy document came into the picture. Prof Singh elaborated his talk by taking real-life examples of well-distinguished figures who put knowledge into action and didn't remain restricted to

classrooms, such as Mahatma Gandhi, A. Einstein, Faraday, and Newton to name a few. How they were able to put knowledge into action and bring a positive change in society. For example, M. Gandhi visited physically people's institutions inside and outside the country and observed keenly the requirements of the people and accordingly served the nation by putting knowledge into action. Similarly, A. Einstein learned in the factory of his father about mechanical machines, gained knowledge and experience and put his knowledge into action for the better advancement of society. He said knowledge should not remain restricted to the blackboard and the classroom only for the sole purpose of NEP, for example, Michael Faraday was working as a bookbinder and gained knowledge over there and put it into action and changing the darkness into light by showing the ways of generating electricity. The speaker also showed that knowledge and action (skill) are two coins of the same coin. He stressed the need that the concept of the same course, same notes and even the same set of questions and passing the examinations needs to go now and there is now an ultimate need to reorient the attitude of students towards the skill. He stressed the idea that not only the classroom is the University but the whole universe. Learn from anywhere and put things into action. See C V Raman was working as an accountant at day time but he had a passion for science, he visited the Indian Association for Cultivation of Science Kolkata after office hours and came up with a new kind of radiation known as Raman radiations or Raman effect and won the Nobel prize in Physics in 1928. The same is the case of Newton not restricted to one thing but kept his own mind eyes and all senses open to working on anything he found passionate for example he contributed to building the Reflecting Telescope, worked on light, gravitation, built up calculus, etc. Again, turning up for the importance of NEP and said that it is an announcement from the rooftop: put knowledge into action. He also spoke a little about the new concept design for your degree which is about to be launched in various educational institutions across the country. In addition to the NEP, Prof Singh highlighted the decisive role of the number of Vice Chancellors for the betterment of an institution. He said the head of the institute must have the power to make big decisions good for the institute. A lot of questions were asked and suggestions were sought from the speaker.

Prof. Ranjan Sexana, Former Vice Chancellor, NMIS Deemed University spoke on the topic

'Ensuring Financial Sustainability in Universities'. Prof. Sexana in his talk discussed the mechanism of ensuring economic sustainability in the Universities. The virtuous cycle which emphasizes innovations discussed during the talk. The very important pillar for the economic sustainability of the universities viz sources of revenues discussed and deliberated in detail. Various means of revenue generation methods were introduced in the talk. The various sources of cash burning such as faculty and non-faculty salary, travel, inventories, etc in their impact on the financial stability of the universities were discussed. During the talk, the methods and measures of managing sustainability were discussed. Inventory management, cash management, and talent management were specially focused during the talk. The break-even analysis touched on in detail. The very important method of the 3D index which is important in financial sustainability debated during the talk. Various queries and suggestions were raised during the presentation of Prof. Sexana. It was finally resolved with the consensus that Vice Chancellors have an important role in improving the financial sustainability of the universities.

Prof. K K Aggarwal, Former Chairman spoke on 'Quality Assurance, Accreditation and Ranking'. In this talk, Prof. Aggarwal narrated that quality assurance and accreditation in higher education institutes is the need of the hour to motivate the students for higher education who always suffer in terms of trivial standards in the higher education system. The resource person claimed that quality is an abstractive term that can't be quantified like honesty; however, there are well-defined measures to describe the quality vis-à-vis standards of any educational institution. These measures include the learning outcome of a specific course, transparency and accountability, assessment patterns and feedback system, infrastructure and learning resources, student support and progression and organization and management, etc. All these measures are quantified to their standards to assess the overall quality of any institution. He believed that any education institute should evolve in all terms like any species that is constantly evolving with the changing environment. Prof. Aggarwal further highlighted the role of curricular aspects, teaching-learning and evaluation system, research, consultancy and extension, feedback from stakeholders for the improvement of the institutional functions, innovations in management and communication, and quality enhancement

strategies for Quality Assurance, Accreditation and Ranking of higher education institutions. The resource person resounded the necessity of accreditation of higher education institutions as it helps to promote excellence, provides means for self-assessment and continuous improvement, enhances reputation and creates public accountability, supports the obtainment of financial aid and support, and helps students to pursue different courses in recognized institutions. Lastly, the resource person advocated giving liberty to faculty members, administrators, and the learners as well for overall quality improvement and ranking of the institution.

Dr. Sanjay Behari, Director, Sree Chitra Trinual Institute for Medical Sciences and Technology, Trivandrum spoke on the topic 'Student Support Including Mental Health and Well-Being'. To start with, he introduced the institute that he is heading besides the major activities initiated and carried out at the institute. The speaker focused on the need for computer-based methods with haptic touch and skill assessment, the need for teaching based on comprehensively created deconstructive modules, assessment of residents' demand and controlled computed objective, and reporting of students' need is required on an annual basis. Besides, he explained how fundamental courses are necessary for the overall development of the students. In connection to the Bio-medical teaching and the research, it was highlighted in the talk that maintaining proper records and their retrieval and utilization is an essential part of training. Publications research innovation and technology development have been deliberated. The main focus of the talk was given on Bio-medical technology development. It has been agreed after discussion between the speakers and participants that technology development and innovation is the need of the nation. Immersive experience in different aspects of education such as basic research, community-based learning and development technology is also needed for institutional and personal growth. In connection with the theme, it was highlighted that steps must be taken to improve the gender ratio. Various mental disorders such as anxiety disorders, depression, sleep disorders, etc deliberated during the talk. Key methods of coping with mental health issues discussed. The talk concluded with a discussion on various mental and physical health issues among the students and the professionals faced at the institution. At the end, the participants and the organizing committee members interacted with the speaker and discussed

various health-related issues with the speaker. The speaker gave a patient hearing to all the queries and suggestions and proposed some innovative ideas for tackling such issues.

Prof. Vinayshil Gautam, Founder Director, IIM-K spoke on 'Governance, Leadership and Crisis Management and Regulatory Compliances'. He talked about the role of government in the governance and leadership of any educational institution. He suggested that for good governance, the Head of the institution should know the basic components to understand the issue, assess the competence of stakeholders, assess the integrity of the institution, and have to have time-bound decisions. He thought that the Head of the institution needs to have the leadership to create the link between faculty members, administrators, finance managers and public dealing persons. All these links must be goal-oriented with definite strategies and milestones. While delivering, an administrative head should review the decisions in terms of nature and direction of progress for the standards at the regional, national, continental and global levels. Besides systematic evaluation protocols must be in place for valuable governance and leadership. With respect to the regulatory compliance, an administrative head must ensure regular monitoring and auditing of administrative decisions. Besides, there should be a judicial review of protocols adopted for policy decisions annually. Prof. Gautam suggested that protocol must be in place for crisis management. The protocols include optional control offices, emergency funds, skilled technical staff, etc. All the stakeholders must ensure the integrity of the office while discharging their duties.

Prof. Nupur Prakash, Vice Chancellor, North Cap University Gurgaon spoke on the topic 'Use of Technology and Digital Transformation'. In her talk, Prof. Prakash highlighted the importance and need for digital transformation in higher education institutions. To share the experience and knowledge about the resources and facilities among the institutions in this direction, the Vice Chancellor of the University of Kashmir told the Director of IT & SS of the University to highlight the initiatives undertaken by the university to make the institution fully digital to improve the efficacy and work culture in the university. The Director, IT explained in detail the steps taken by the university in the digitization of examination systems, admissions, accounts, purchases, and various administrative and employee-

related works. The Director IT&SS also elaborated on how the University of Kashmir worked for Govt. of UT J&K for the digitization of the employee record as a consultancy project. The talk concluded with the note that digital transformation is important for the overall growth of the University.

Prof. Prem Kumar Kalra, Director, Dayal Bagh Educational Institute Agra deliberated on the theme 'Sustainability, Community Engagement and Partnerships'. Prof. Kalra screened some documentaries to highlight the importance of community engagement and partnerships for sustainable development. Prof. Kalra discussed the triple planetary crisis which includes climate change, pollution, and biodiversity loss and its effects on humanity. Human activities are the main drivers of climate change which leads to increased environmental pollution and loss of biodiversity at large scale and ultimately tell upon the overall sustainability of the globe. He opined that a rise in global temperature by 1.5oC to 2.0oC by 2100 due to increased greenhouse gas emission, deforestation and associated unhealthy environmental practices may lead to an increase in the sea level by 1.5 to 2 feet and coral bleaching up to the extent of 70%. Due to high pollutant emissions half of the world's population is facing water crisis at least once a year, impacting agriculture and land use patterns badly. The resource person echoed the importance of afforestation to prevent soil erosion for sustainable agriculture. Talking about sustainability for energy sources, he stressed harnessing energy from conventional sources like solar energy, wind energy, and hydro-energy to meet the energy requirements. Addressing the global wealth inequality, Prof. Kalra floated a triple-layer sustainable economic model, which includes sustainable profit, sustainable people and a sustainable planet and discussed the importance of all three components for the overall sustainability of the world. Prof Kalra highlighted the importance of community involvement through entrepreneurship programs for the economic development of rural as well as urban populations. Since every community has its own unique needs, hence involvement of the communities is pivotal in the overall development of any area. Prof Kalra thought that we need to have policies and strategies in place to address environmental issues like global emission of greenhouse gases, piling up of wastes (especially nondegradable wastes), etc. so that sustainability in all spheres of life will be achieved. While concluding his talk, Prof Kalra impressed upon heads of higher education institutes to make

some courses compulsory for all graduating students for the development of a sustainable world. Besides, the resource person asked all the stakeholders to do what they wanted to do to combat the triple planetary crisis.

Prof. Bhushan Patwardhan, Former Vice Chairman, University Grants Commission deliberated on the topic 'Globalization and Internationalization'. In his speech, he emphasized that higher education in India is at a turning point. He emphasised the need for government, administration, statutory bodies, special interest groups, and thought leaders all to work and relook at the vision which ultimately reshapes and drives the higher education system, particularly in the context of the New Education Policy (NEP). The session mainly focussed on the internationalization of higher education, best practices for a global vision, and the need for institutions of excellence which ultimately may attract foreign students to the institutions of the country. The session also discussed the paradigm shift in education through modern technologies and its requirements such that teachers and administrators need to be familiar with such that obsolescence of the knowledge and methods may be tackled in higher education. The session specially discussed empowering teachers to integrate into the modern teaching-learning process for the paradigm shift. Innovative financing solutions in educational institutions have also been discussed during the session. All the dignitaries participated during the session and put forth their ideas and recommendations. All the dignitaries present in the session voiced the for need collaboration work for the exchange of resources and manpower. In this context, the Vice Chancellor of the host institute and the Convenor of the event briefed the august gathering about the facilities created in the University for foreign students. At the end of the session, Prof. Patwardhan emphasized that health should be given such that a sound mind may reside in a sound body. He encouraged regular exercise and yoga for better health in higher education institutions. The session ended with encouraging remarks by all the dignitaries.

During Valedictory Function, Dr. Pankaj Mittal thanked the university administration for hosting such an important event. Prof. Mohammad Farooq Mir moderated the proceedings while Prof. Nilofer Khan assured full support and cooperation for such programmes. Dr Nisar Ahmad Mir proposed the vote of thanks. □

Book Review

Timely and Insightful

Sanjay Kumar Das*

Sinha, Pramath Raj (2023). *Learn, Don't Study*, Penguin Random House India, Hardcover, Pages 256, Rs 399/-

“Learn, Don’t Study” by Pramath Raj Sinha is a timely and insightful book that addresses the evolving landscape of education and career choices in India. In a world where traditional career paths are no longer as clear-cut, Sinha’s book offers valuable guidance and a fresh perspective on how young people should approach their educational and professional journeys.

The book starts by highlighting the changing nature of work in today’s world, emphasizing the rise of “squiggly” careers that are non-linear and constantly evolving. This shift creates a dilemma for young individuals and their parents, who face the pressure to succeed within a narrow definition of success, often driven by financial stability. Author goes on to discuss the challenges faced by institutions in adapting to these changes and argues for a more engaged approach to education. He stresses the importance of agility and adaptability as key skills in the modern workforce and suggests that students and parents need new frameworks and guidance to make informed decisions.

What sets this book apart is its focus on practical advice from individuals with a direct connection to India. Through a series of interviews, Prof. Sinha presents diverse stories of successful professionals who have navigated unique career paths. These interviews offer valuable insights into how individuals can prepare for their careers, learn from their experiences, and make informed choices. The book provides a comprehensive resource for young people and their parents who are navigating the complexities of modern education and career choices in India. Drawing on his extensive experience in the education sector, the book offers a refreshing perspective on how to thrive in a rapidly

* *Pro Vice Chancellor, Maharaja Agrasen Himalayan Garhwal University, Uttarakhand-246169. Email: professorsanjaydas1967@gmail.com*

changing world. It’s an essential read for anyone seeking guidance and direction in their educational and professional pursuits.

First chapter titled “You Can Do Anything” sets the stage for the book’s exploration of career choices and personal passions. The author begins by referencing a poignant scene from the TV show “This Is Us,” in which one of the characters, Kate, expresses her uncertainty about her future, feeling overwhelmed by the clarity her brothers have regarding their life paths. The chapter goes on to reassure readers that Kate’s experience is more common than we might think. During the transition from adolescence to adulthood, it’s normal not to have a clear vision of one’s future. Many young individuals lack the experience to translate their likes, dislikes, strengths, and weaknesses into a definite career path. Prof. Sinha emphasizes that while financial compensation is important, it shouldn’t be the sole determinant of one’s career choices, especially in the early stages. He warns against becoming fixated on potential earnings, which can lead to poor decisions regarding education and job selection.

The chapter introduces three core principles:(a) It’s possible to make a career out of doing something you love. Sinha stresses that many opportunities exist today for pursuing meaningful, passion-based careers rather than simply settling for stable jobs that pay the bills,(b) your passion is usually something you develop. The book challenges the notion of finding a pre-existing passion and instead encourages the idea that passions can be cultivated over time. It suggests that young people need not feel pressured to have all the answers about their future immediately, (c) you can have multiple loves and multiple careers. The chapter underscores the idea that individuals are not confined to just one passion or career in their lives. People are multifaceted, and their interests can

lead them down diverse career paths. Throughout this chapter, Prof. Sinha's perspective is grounded in real-world experiences and research, offering readers valuable insights into career development and personal growth. It encourages individuals, especially young people, to approach their career journeys with an open mind and the understanding that their paths may be more diverse and adaptable than they initially thought.

The Second Chapter of the book, "It All Starts with Self-Discovery," delves into the crucial role self-discovery plays in building a fulfilling and successful career. The chapter illustrates this through various personal stories and experiences of individuals who have navigated their career paths by understanding themselves better. Monica Hariharan's story, for instance, highlights the pressures young individuals often face when making early career choices. In her case, societal expectations led her to pursue a path in science, even though she had different interests and aspirations. However, her determination to make a meaningful impact and enjoy her work eventually guided her toward journalism and participation in programs like the Young India Fellowship, which allowed her space for self-discovery.

The chapter emphasizes that self-discovery is an ongoing and ever-evolving process. Unlike the fixed North Star, our self-understanding continually changes as we gain experience and insight. It cannot be rushed or forced, and psychometric assessments like the Myers-Briggs test often provide limited guidance. Real-world experience, as seen in Siya Sood's journey, is essential for truly understanding one's passions, strengths, and weaknesses. The pressure to have everything figured out early in life is common, particularly in competitive educational systems like India's. Premature conformity, as discussed, often results from attempting to make career decisions before gaining sufficient experience. The author encourages young individuals to resist this pressure and take a more gradual approach to self-discovery. The chapter underscores that self-discovery is unique to each person and may occur at different stages of life. Some individuals, like Srikant Sastri, know their career paths from a young age, while others, like Anita, experience several phases of transformation throughout their careers. This diversity of experiences highlights that there's no one right way to discover oneself.

Emphasis is placed on self-discovery as a lifelong journey, encouraging readers to embrace the process and not feel pressured to have everything figured out early on. The stories of Monica, Siya, and Anita demonstrate that self-understanding can be achieved through real-world experiences and that individuals are capable of discovering new passions and talents throughout their lives.

"Balancing Breadth and Depth", the third chapter of the book delves into the importance of finding a balance between being a generalist and a specialist in one's educational and career pursuits. The author draws inspiration from David Epstein's book, "Range: Why Generalists Triumph in a Specialized World," which challenges the notion that early specialization is necessary for success. The chapter starts by highlighting the experiences of athletes like Roger Federer and members of the US Women's Olympic soccer team, who benefited from playing a variety of sports before specializing. It then expands the discussion to business, arts, and education, making a compelling case for the value of developing a wide range of skills and experiences, especially early in life, to apply them later in a more focused career. The key takeaways from this chapter are:

Balancing Breadth and Depth

The chapter emphasizes the importance of balancing general knowledge and specialized expertise. It suggests that success often comes to those who have both specific skills and broader, more universal skills.

Choosing Your Educational Path

The author acknowledges that there's no one-size-fits-all answer to educational choices. Each person is unique, with different backgrounds and goals. The chapter encourages readers not to feel pressured into making the "perfect" educational choice and to be open to uncertainty.

The Institution Is More Important Than the Major

It underscores the idea that the reputation and culture of the institution you attend can be more valuable than the specific major you choose. A good school can open doors and provide opportunities for growth.

In Defense of the Liberal Arts

The chapter discusses the benefits of a liberal arts

education, emphasizing its focus on critical thinking and interdisciplinarity. It counters the common belief that liberal arts degrees are impractical by explaining how they can lead to valuable soft skills.

Learning How to Specialize

While advocating for breadth, the chapter also acknowledges the importance of eventually specializing in a specific field. It suggests that after gaining a diverse set of skills and experiences, one can choose a specialization that aligns with their interests and strengths.

Striking Your Balance

The chapter encourages readers not to rush into specialization but to embrace the idea that inefficient learning in the short term can lead to more efficient long-term learning. It suggests taking a longer and winding path to benefit in the long run.

The book promotes the idea that success in the modern world requires a balanced approach to education and career development, combining generalist skills with specialized expertise. It encourages readers to explore diverse opportunities and institutions while keeping an open mind about their educational path.

The fourth chapter of the book discusses the importance of focusing on the right skills in today's ever-shifting working world. It addresses the ongoing discussions in both corporate and educational spheres about which skills are crucial for long-term success and adaptability. The chapter explores key questions about skill development, such as what skills are vital for young people, how educational institutions can better prepare students, and how companies can assess and develop their employees' skill sets. The common belief that staying agile requires anticipating and acquiring future-relevant technical skills have been highlighted. However, it emphasizes that merely staying ahead of the technical curve isn't sufficient. The 'skill gap' has become a significant issue for many companies, with a shortage of talent in various sectors. This gap is not just about technical skills; it also extends to soft skills like critical thinking, collaboration, and communication.

The author interviews professionals to identify the skills that have been most important in their careers. These skills often fall into five categories: communication, emotional intelligence, collaboration,

critical thinking, and problem-solving. These skills are transferable across industries and are highly sought after by employers. The chapter underscores that communication is a universally valuable skill, emphasizing its diverse nature in both written and spoken forms. Effective communication involves adapting styles based on context and audience, a skill essential in various professional pathways. The chapter also suggests that cultivating a value for writing is crucial for becoming a better written communicator. Emotional intelligence is briefly discussed, noting its importance in leadership and collaboration. Research suggests that emotional intelligence plays a significant role in professional success, influencing leadership capabilities and overall performance. Collaboration is described as essential in today's cross-functional and dynamic work environment. Building strong relationships with teammates and handling conflict constructively are critical aspects of collaboration. The ability to navigate complex workplace dynamics is crucial. Critical thinking is highlighted as a multifaceted skill involving questioning, pattern recognition, and information analysis. Developing critical thinking often involves forming well-informed opinions, which requires research and consideration of multiple perspectives. Problem-solving is identified as a highly sought-after skill in the modern workplace. It involves expecting and proactively addressing problems as they arise, breaking down complex issues into manageable parts, and finding innovative solutions. Finally, leadership is discussed as a skill in high demand, yet there remains a leadership gap in many organizations. Leadership is challenging to teach and often requires experiential learning. Taking responsibility for projects or teams is highlighted as a crucial aspect of leadership development.

The fourth chapter underscores the importance of a well-rounded skill set, including both technical and soft skills, for long-term success in a rapidly changing professional landscape. It emphasizes the value of skills such as communication, emotional intelligence, collaboration, critical thinking, and problem-solving, which are transferable and highly sought after by employers.

"Picking Up (and Connecting) the Dots," being title of the Chapter Five, explores the journey of picking up and connecting the dots in one's career and life. It draws inspiration from Steve Jobs' famous

commencement address at Stanford University, emphasizing the idea that you can only connect the dots looking backward. The chapter delves into the stories of various individuals who have navigated their careers in unconventional and unpredictable ways. It emphasizes several key themes:

Your Life is an Experiment

Paroma Roy Chowdhury's career journey illustrates the importance of experimentation. She embraced opportunities in various fields, even without formal experience, and continuously picked up new dots along the way. This approach highlights the value of taking risks and not being deterred by a lack of experience.

Overcoming the Fear of Failure

Uday Shankar's career trajectory showcases the significance of conquering the fear of failure. He suggests that while overcoming this fear is vital to seizing opportunities, once you commit to a path, you should do everything in your power not to fail. This balanced perspective on failure serves as a helpful guide for career decisions.

You Don't Have to Feel Like an Imposter

Smridhi Marwah's story touches upon imposter syndrome, a common psychological obstacle to success. The chapter acknowledges that imposter syndrome is widespread and can affect even high-achieving individuals. It encourages readers to be aware of this syndrome, question their conclusions, and accept that it might persist throughout their careers.

Get as Much Experience as You Can

The chapter underscores the importance of real-world experience in career development. It suggests avenues like experiential learning programs and proactively seeking additional responsibilities within one's current role as ways to gain valuable experience.

Curiosity Is a Superpower

The book highlights curiosity as a valuable skill for career success. It cites research indicating that curiosity can lead to better decision-making and increased creativity and productivity. Asking questions and seeking to understand the "why" behind things are key ways to nurture curiosity.

Putting It All Together

The chapter concludes by emphasizing the idea that connecting the dots in your life and career requires picking them up along the way. It encourages readers to embrace the uncertainty of modern careers, take calculated risks, and not feel pressured to have everything figured out in advance.

The fifth chapter provides valuable insights and real-life examples that inspire readers to embrace the unpredictable nature of their careers, overcome fears, and continuously pick up and connect the dots that shape their professional journeys. It reinforces the notion that experimentation, resilience, and curiosity are essential ingredients for success in today's ever-changing world.

The Chapter 6 of the book titled "Your Career in the World of Big Data" discusses the significance of mentorship in shaping a successful career. The chapter emphasizes how mentors have played pivotal roles in the career journeys of many individuals, helping them discover their strengths, refine their passions, and navigate critical decisions. Mentorship is depicted as a guiding force that amplifies various aspects covered in earlier chapters, such as self-discovery, educational choices, skill development, and career progression. The positive impact of mentors extends not only to the professional realm but also to students, as demonstrated by a study that highlights the academic benefits of mentorship. The chapter presents real-life stories of individuals who have benefited from mentorship. It highlights the importance of mentors as trusted voices outside of one's family, providing objective advice that can lend legitimacy to unconventional decisions. Mentors are seen as individuals who can offer a perspective on one's future free from the biases that family members might have.

Furthermore, the chapter underscores how mentors help individuals in finding and connecting the dots in their careers. Mentors can act as objective observers, identifying talents and experiences that individuals may overlook and guiding them towards new opportunities. This aspect of mentorship is portrayed as an essential element of self-discovery, helping individuals integrate their experiences into their career trajectories. The chapter also mentions institutional mentorship programs in companies

and academic institutions, which have become more prevalent in recent years, highlighting the structured and formalized approaches to mentorship. In summary, Chapter six underscores the invaluable role of mentors in career development. It emphasizes that mentors provide not only guidance but also a sense of direction, confidence, and the ability to make informed decisions. It encourages readers to seek mentorship from various sources and highlights the mutual benefits that mentors and mentees can derive from the mentorship relationship.

The seventh chapter of the book titled “Advice for Parents: Tapping into the Secret Sauce” delves into the challenges and responsibilities of parenting in a rapidly changing world, particularly in the context of India’s transformation. The chapter begins by highlighting the significant economic and cultural changes India has undergone in recent decades. The author emphasizes that the pace of cultural change has not kept up with the economic transformation, creating a gap in parenting and guidance for children. Parents today face a unique challenge because the world their children are growing up in is vastly different from their own experiences. The author cautions against projecting their own life experiences onto their children, as what worked for them may not be suitable for the current generation. The chapter encourages parents to share their values but with humility and an open mind, adapting their advice to the changing world. It emphasizes the importance of effective communication between parents and children regarding their aspirations and expectations.

The chapter also provides insights for young people, suggesting that they share this chapter with their parents to initiate conversations about their future plans. It encourages parents to reevaluate their expectations and support their children’s education and career choices. The cultural pressure to succeed in India is discussed, with a focus on the toll it can take on young people’s mental health. The chapter emphasizes the need for parents to create an environment where it’s okay for children to be uncertain about their future. The author stresses the importance of recognizing that today’s children are different from their parents due to the rapidly evolving world and changing values. Acknowledging these differences is essential for effective guidance. The chapter touches on evolving

attitudes toward LGBTQ+ issues in India and how younger generations are often more progressive than their parents. It encourages parents to be open-minded and engage in conversations about these topics.

The advice provided in the chapter emphasizes helping children discover their passions and interests rather than imposing career choices on them. Parents are encouraged to support diverse experiences and help children experiment with various activities. The concept of “guidance with a light touch” is introduced, suggesting that parents should prepare their children to navigate decisions rather than instructing them on specific choices. This approach encourages critical thinking and decision-making skills. Developing agility and resilience in children is emphasized, with an emphasis on diversity in skills and experiences. Parents are encouraged to allow their children to take on challenges and experience failure, as it helps build resilience and adaptability. The chapter concludes by highlighting the importance of instilling deeper values, such as hard work, dedication, and integrity, in children while allowing them the freedom to find new ways to express these values in the modern world. It offers valuable insights and advice for parents navigating the complexities of parenting in a rapidly changing society, with a focus on nurturing their children’s individuality and adaptability while preserving core values.

Conclusion

The conclusion of the book “Unlocking a Growth Mindset” brings forth a thought-provoking perspective on pursuing dreams and adopting a growth mindset. The central idea conveyed in this conclusion is the shift from “following your dreams” to “discovering your dreams.” This shift acknowledges that dreams are not fixed but dynamic, evolving entities that require experimentation, action, and self-discovery to uncover. The author emphasizes the concept of a growth mindset, a psychological framework introduced by Carol Dweck, where individuals believe in their capacity for growth and development. The growth mindset challenges the notion of fixed abilities and encourages embracing change and adaptability in the face of uncertainty. Several key takeaways emerge from this conclusion:

Dynamic Dreams

Instead of seeing dreams as predetermined goals, we should view them as evolving aspirations. The process of discovering one's dreams involves trying out various paths, learning from experiences, and adapting along the way.

Embracing Growth

The growth mindset is a powerful tool for personal and professional development. It reminds us that we are not static beings but have the potential to evolve and improve with effort and dedication.

Openness to Change

The importance of developing a diverse skill set and being open to new perspectives is highlighted. This openness prepares individuals to navigate the unpredictable nature of modern careers successfully.

Fear of Failure

With a growth mindset, the fear of failure diminishes. Mistakes and setbacks are seen as opportunities for learning and growth rather than as roadblocks.

Mentorship

Seeking guidance and mentorship becomes crucial in the pursuit of personal and professional

growth. It reflects humility and a commitment to becoming the best version of oneself.

Parental Role

Parents play a significant role in fostering a growth mindset in their children. Encouraging them to embrace change, learn from experiences, and not be afraid of failure prepares them for a dynamic future.

Additionally, the conclusion addresses three common misconceptions about the growth mindset, as identified by Carol Dweck. These misconceptions emphasize the importance of continuous effort and practice in cultivating a genuine growth-oriented mindset. The conclusion wraps up with the inspiring stories of individuals who embodied a growth mindset throughout their careers, demonstrating that this mindset can lead to remarkable achievements and personal fulfilment.

The conclusion of the book encourages readers to embrace change, view dreams as evolving journeys, and adopt a growth mindset as a foundation for personal and professional success. It emphasizes the value of patience, curiosity, and resilience in navigating the twists and turns of life and career paths. Ultimately, the message is clear: by fostering a growth mindset, individuals can surpass their own expectations and achieve extraordinary things in their lives. □

AIU MEMBERSHIP FEE (Annual Subscription)

Member Universities of AIU are requested to remit Membership Fee (Annual Subscription) using online link: <https://payment.aiu.ac.in>.

In case Annual Subscription is remitted through ECS/RTGS/NEFT, **kindly share the remittance particulars/UTR details on email IDs: aiu_finance@rediffmail.com & accounts@aiu.ac.in** so that subscription is promptly linked and Tax Invoice-cum-Receipt is issued without any delay from AIU's end.

For any queries regarding Annual Subscription, please write to The Joint Secretary (Finance) on the emails mentioned above or on Phone Numbers: 011-23230059 (6 Lines) & Direct Number 011-23213480.

THESES OF THE MONTH

HUMANITIES

A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of June-July, 2023)

Cultural Studies

1. Roy, Chowdhury Kakali. **Revisiting Kautilya's Arthashastra: Leadership, humanism, ethics.** (Dr. Meera Chakravorty), Department of Cultural Studies, Jain University, Bangalore.

History

1. Buttani, Geetaben Gandubhai. **The historians of Junagadh in the history of Saurashtra and the contribution of Bhagvanlal Indraji, Bhagvanlal Sampatram, Acharya Vallabhaji Haridutt, Acharya Girijasankar Vallabhaji and Dr Shambhu Prasad Desai (A D 1870 to A D 1970).** (Dr. Dhirubhai Vala), Department of History, Saurashtra University, Rajkot.
2. Malakar, Tarun Kumar. **British Bharat mein mahilaoan ke rajnaitik evam samajik isthiti ka adhyayan (1707-1947).** (Prof. Rajeev Ranjan), Department of History, T M Bhagalpur University, Bhagalpur.
3. Rajpal. **Sagar sambhag ke durgoan ka aitihāsik adhyayan.** (Prof. B K Shrivastava), Department of History, Dr Harisingh Gour Vishwavidyalaya, Sagar.

LANGUAGES & LITERATURE

English

1. Anita. **From victimhood to empowerment: A study of the novels of Manju Kapur.** (Dr. Ritu Sharma), Department of English, Maharishi Markandeshwar University, Ambala.
2. Bavlecha, Mayuri Damjibhai. **A comparative study of the select novels of Kundnika Kapadiya and Manju Kapur.** (Dr. Pramodsingh R Chauhan), Department of English, Saurashtra University, Rajkot.
3. Bura, Tanu. **Voicing anger and frustration: A critique of the selected fiction of angry young men.** (Dr. Ramandep Mahal), Department of English, Maharishi Markandeshwar University, Ambala.
4. Das, Abhishek. **Conceptualizing the 'Rogue' in anglophone 'Girmit' narratives by Seepersad Naipaul and Cyrill Dabydeen.** (Dr. Chandan Kumar Panda), Department of English, Rajiv Gandhi University, Itanagar.

5. Der, Sunilkumar Hardasbhai. **A study of developing LSRW skills through mobile application for under graduate students.** (Dr. Ketan B Vyas), Department of English, Saurashtra University, Rajkot.
6. Kelaia, Yoginiben Bipinbhai. **Portrait of Indian woman along with fused myths, tales and fictional voices through vernacular outlook of feminism in the selected works of Githa Hariharan, Samhita Arni, Trisha Das and Twinkle Khanna.** (Dr. Iros B Vaja), Department of English, Saurashtra University, Rajkot.
7. Narender Kumar. **Psycho-social dialectics and the idea of time in the works of Gabriel Garcia Marquez.** (Prof. Nikhilesh Yadav), Department of English, Indira Gandhi University, Meerpur.
8. Sadhu, Maunkumar Rameshbhai. **The manifestation of urban reality in contemporary Indian English drama with special reference to the plays of Girish Karnad, Mahesh Dattani and Nissim Ezekiel.** (Dr. Rajesh R Ladva), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.
9. Sarangdhar, Adik Manisha. **A study on pessimistic elements in the selected novels of Thomas Hardy.** (Dr. Suresh Kumar), Department of English, Bhagwant University, Ajmer.
10. Sharma, Anuradha. **A study of the dialectics of gender in the selected works of Pakistani women writers.** (Dr. Randeep Rana), Department of English, Maharshi Dayanand University, Rohtak.
11. Singh, Akhand Pratap. **Realism and social consciousness in the selected works of Vikram Seth and Namita Gokhale.** (Dr. Tripti Tyagi), School of Media Studies & Humanities, Manav Rachna International Institute of Research and Studies, Faridabad.
12. Tabrez, Md Shams. **Enigma of survival in Doris Lessing's the grass is singing: A postcolonial perspective.** (Dr. M A Rizwee), Department of English, T M Bhagalpur University, Bhagalpur.
13. Thampy, Chitra Susan. **Aliyah" and "Hiraeth": A region-specific cultural study of home consciousness in Knanites and Cochin Jews.** (Dr.

- Sreedevi Santhosh), Department of English, Jain University, Bangalore.
14. Tilavat, Achyut Mukundray. **History, fragmented memory, redefining personal, national and cultural identity in select works of Kazuo Ishiguro.** (Dr. Gyanendra D Choudhary), Department of English, Saurashtra University, Rajkot.
 15. Vanza, Katan Punjabhai. **Social realism in the select novels of Kamala Markandaya: A critical study.** (Dr. Pramodsingh R Chauhan), Department of English, Saurashtra University, Rajkot.
 16. Vyas, Nirav Rajeshbhai. **Folktales of Saints: A hagiographical study in British and Saurashtrian folklore.** (Dr. K G Rathod), Department of English, Saurashtra University, Rajkot.

Gujarati

1. Moradhara, Sumitraben Parshotambhai. **Sanshodhak, vivechak ane sampadak Bhogilal Sandesara: Ek abhyas.** (Dr. Arunkumar J Kakkad), Department of Gujarati, Bhakta Kavi Narsinh Mehta University, Junagadh.
2. Trivedi, Kiritkumar Bhaskerray. **A study of folk culture of memorial stones of Bhavnagar District.** (Dr. Ushabhen Upadhyay), Department of Gujarati, Gujarat Vidyapith, Ahmedabad.

Hindi

1. Biswakarma, Baby. **Ekkiswi (21) shati ke Hindi upanyasoan mein chitrit grmin stree jeevan: Ek anushilan (Aganpakhi, Aachri Machri, Pichle Panne ke Auratein, Babal Tera Des Mein, Benimadho Tiwari ke Patoh, Rang Gai Mor Chunarriya, Ret, Shefali Ke Phool, Hasinabad, Hemantiya urf Kalectarni Bai, Triyahath upanyas ke vishesh sandarbh mein).** (Dr. Satyaprakash Pal), Department of Hindi, Rajiv Gandhi University, Itanagar.
2. Borah, Diganta. **Phanishwar Nath Renu ke katha sahitya ka rooptatvik anusheelan.** (Prof. Shayam Shankar Singh), Department of Hindi, Rajiv Gandhi University, Itanagar.
3. Dipa Kumari. **Madhu Kankariya ka upanyas-sahitey: Vishleshnatamak adhyayan.** (Dr. Vinay Kumar Singh), Department of Hindi, T M Bhagalpur University, Bhagalpur.
4. Elezabeth, Greeshma K A. **Adhunik Hindi katha sahitya mein transgender ka jeevan yatharth.** (Dr. R Sasidharan), Department of Hindi, Cochin University of Science & Technology, Kochi.

5. Makwana, Ushaben Kantilal. **Dr Shankar Shesh ke natkoan ka samasyamulak anusheelan.** (Dr. Hemal M Vyas), Department of Hindi, Saurashtra University, Rajkot.
6. Pandey, Reetika. **Hindi ka sant sahitya aur Professor Nand Kishore Pandey kee aalochana drishti.** (Dr. Satya Prakash Pal), Department of Hindi, Rajiv Gandhi University, Itanagar.
7. Rakesh Kumar. **Hindi rangmanch aur Surendra Verma ke natak.** (Dr. Shiv Shankar Mandal), Department of Hindi, T M Bhagalpur University, Bhagalpur.
8. Raushan Kumar. **Gopal Singh Nepali kee kavita mein prem ke vividh roop: Ek anusheelan.** (Dr. Vishwajeet Kr Mishra), Department of Hindi, Rajiv Gandhi University, Itanagar.
9. Shyju, K. **Nav vampanthi kaviyoan kee kavitaon mein pratirodh kee sanskriti.** (Dr. N Mohanan), Department of Hindi, Cochin University of Science & Technology, Kochi.
10. Vyas, Pragna Amrutlal. **Mannu Bhandari ke katha sahitye mein stri-sashaktikaran.** (Dr. R M Rathod), Department of Hindi, Saurashtra University, Rajkot.

Nepali

1. Khati, Yogesh. **Swatantryottar Darjeelingka Nepali naatakma samaj- rajnaitik chetanako adhyayan.** (Prof. K R Ghatani), Department of Nepali, University of North Bengal, Darjeeling.

Sanskrit

1. Atri, Dushyant Ravindrabhai. **A critical study of subjects of against to universal order in Purans.** (Dr. MD Savsani), Department of Sanskrit, Saurashtra University, Rajkot.
2. Ravi. **A critical study of Shri Shankaracharyacharit composed by Acharya Nigambodhteerth Dandiswami.** (Dr. Ajay Kumar Mishra), Department of Sahitya, Central Sanskrit University, New Delhi.
3. Shilu, Gautamkumar, Kishorbhai. **Paniniya-Haim-avyakaranashastrayoh Tinantaprakaranasya Dhatuprakriyayah tulanatmakamadhyayanam.** (Dr. Lalji M Panseriya), Department of Sanskrit, Bhakta Kavi Narsinh Mehta University, Junagadh.
4. Sandeep Kumar. **Trisikhibrahmanopanisad: Eka samiksatmaka adhyayana.** (Dr. Krishna Devi), Department of Sanskrit, Kurukshetra University, Kurukshetra.
5. Sartul Kumari. **Bhas evam Kalidas ke sahitye ka aachar shastriye adhyayan.** (Dr. Shree Bhagwan),

Department of Sanskrit, Maharshi Dayanand University, Rohtak.

6. Shah, Kinjalben Chandreshbhai. **A literary criticism of Rudradasa's Candaleha.** (Dr. Dinanath Sharma), Department of Prakrit, Gujarat University, Ahmedabad.
7. Sharma, Dheeraj. **Analysis of teaching methods of Jyotisha in accordance of present time.** (Dr. Battilal Meena), Department of Jyotisha, Central Sanskrit University, New Delhi.
8. Srishti. **Vaiyakaransiddhantlaghumanjushastha kala-kunjikatikayoh tulnatmakamadyayanam.** (Prof. Vishnukant Pandey), Department of Vyakarna, Central Sanskrit University, New Delhi.
9. Tripathi, Amit Kumar. **Bauddhasahityetar-Sanskritkavyeshu Bauddhasandarbhavimarshah.** (Dr. Vijay Kumar Jain), Department of Sahitya, Central Sanskrit University, New Delhi.
10. Trivedi, Kushagra Bhaskarbai. **An analytical study of advaitic in Tattvavaisharadi commentary of Yogasutra.** (Dr. Manjunath S G), Department of Advaita Vedanta, Central Sanskrit University, New Delhi.
11. Upadhyay, Nitesh. **Damodardasguptavirachitakut-taneematvishishtasthalanam vyakaranashastriyamadyayanam.** (Prof. Surendra Pathak), Department of Vyakarna, Central Sanskrit University, New Delhi.
12. Verma, Anita. **A critical study of the Ramvilaskavyam.** (Dr. Aparajita Mishra), Department of Sahitya, Central Sanskrit University, New Delhi.

PERFORMING ARTS

Jainism

1. Jain, Vinay. **Jain puja padhtiyoon ka samikshnatamak adhyayan.** (Prof. M P Jain), Department of Jainology, Teerthanker Mahaveer University, Moradabad.

Music

1. Bhagath, Ananya. **Kannada Mattu Tamilu Company natakagalalli Bharateeya shastriya sangeetha - Ondu adhyayana.** (Dr. Meera Rajaram Pranesh), Department of Music, Jain University, Bangalore.
2. Komal Rani. **Sugam sangeet mein sitar vaadh kee prayogdharmita: Ek vishleshnatamak adhyayan.**

(Dr. Bhupender Kuamr), Department of Music, Maharshi Dayanand University, Rohtak.

3. Shyam Lal. **Haryanvi Loknatya Saang ke sanrakshan tatha samvardhan mein Pt. Maan Singh evam unkee saang pranali: Ek adhyayan.** (Dr. Shuchismita Sharma), Department of Music, Kurukshetra University, Kurukshetra.
4. Verma, Vaishali. **Hindi Chitarpat sangeet mein thumri evam gazal ki prayogikta: Ek vishleshnatmak adhyayan.** (Dr. Shakuntala Rani), Department of Music, Kurukshetra University, Kurukshetra.

Visual Arts

1. Ahlawat, Sunita. **Surajkund antarashtriye hastshilp mele mein lok kala ka swarup: Ek vivechan.** (Dr. Bhup Singh Gulia), Department of Visual Arts, Maharshi Dayanand University, Rohtak.
2. Shobhna. **Bhartiye samkaleen kala ke mul aadhar: Bhartiye tatha pashchatye kala ke prabhavoan ke sandarbh mein ek vishleshan.** (Dr. Meenakshi Hooda), Department of Visual Arts, Maharshi Dayanand University, Rohtak. □



CENTRAL UNIVERSITY OF RAJASTHAN, KISHANGARH

Reaccredited to Grade A++ by NAAC

No.: R/F.153/Rectt./2023/3099

Date : 06.12.2023

Rolling Advertisement for Recruitment of Teaching Positions

Central University of Rajasthan invites online applications in the prescribed format from eligible Indian citizens and overseas citizens of India for appointment to the posts of

Professor 05

Associate Professor 03

Assistant Professor 07

in various academic departments. This is rolling advertisement. The process for interview will be started in the first phase for some posts with sufficient number of applications received by **25th January 2024**. Interviews of applications received for other posts will be included for the next phase, the information of which will be made available on the website in due course.

The minimum qualification, experience, age relaxation, service conditions, emoluments, retirement age etc. are available as per university/govt.in/UGC rules and on the university's website www.curaj.ac.in.

Registrar

**Shri Chhatrapati Shikshan & Arogya
Prasarak Mandal Kharda
Tal. Jamkhed 413204
Dist. Ahmednagar (M.S.)**

Wanted

Sanstha is inviting applications from eligible candidates for the post of **Principal(Granted)** in **Shri Sant Gajanan Mahavidyalaya, Kharda, Tal., Jamkhed, Dist. Ahmednagar, (Maharashtra) Affiliated to Savitribai Phule Pune University, Pune.**

For detailed **information (Qualification & Reservation etc.)**, please visit our **Website : www.ssgmkharda.in**.

Secretary

ALPHONSA COLLEGE PALAI
Arunapuram P.O., Pala
Kottayam Dist., Kerala - 686574
E-mail: acpappointment@gmail.com

No.A1- 306/2023

Dated: 04/12/2023

NOTIFICATION

Applications are invited from eligible candidates for the post of Principal in Alphonsa College Pala. Age and qualifications as prescribed by the rules and regulations of UGC/State Government/Mahatma Gandhi University, Kottayam. Application forms other details can be down loaded from the college website www.alphonsacollege.edu.in. Completely filled application with the receipt of applications Fee Rs. 2000/- should reach the college office within 30 days of this notification.

Pala

(Sd/-) Manager

WANTED

Applications are invited for the post of **Assistant Professor** to be filled in **Kai. Ramrao Patil Adhyapak Mahavidyalaya (B.Ed.) Udgir Tq. Udgir Dist Latur** (Permanent Not Granted) run by **Adarsh Bahuuddeshiya Sevabhavi Sanstha Loni Tq Udgir Dist Latur**. Eligible Candidates should Submit their applications along with all necessary documents within **15 days** from the date of the Advertisement by Registered Post only.

| Sr. No. | Name of Post | Subject | Qualification | No. of Post | Reservation |
|---------|---------------------|--|---|-------------|---|
| 01 | Assistant Professor | Perspective in Education | M.A/M.Sc. NET/SET Ph.D. | 04 | Open-02 SC - 02 ST - 01 VJ(A) - 01 NT(C) - 01 OBC - 03 EWS - 01 |
| 02 | Assistant Professor | Pedagogy Subject, Math, Science, Social Science Language | M.A/M.Sc. NET/SET Ph.D. | 05 | |
| 03 | Assistant Professor | Health and Physical Education | M.A/M.Sc. M.PED/ NET/SET | 01 | |
| 04 | Assistant Professor | Performing Arts/Music/Dance/Theatre/Fine Arts | M.A. Fine Arts M.A. Music SET/NET Ph.D | 01 | |

Educational Qualification :-

Assistant Professor :-

1. Good Academic Record with 55% marks at P.G. degree level and SET/NET Pass of Ph.D degree as per UGC Regulations of 2009.

Scale And allowances :- As per the Norms of UGC Maharashtra Govt. & SRTM University Nanded.

Note

- 1) Prescribed application form is available on the University Website : (www.srtmun.ac).
- 2) No T.A./D.A. will be paid to candidates to attend the interview.
- 3) S.C/S.T. Candidates are eligible to apply even if they have 50% marks only at PG level degree.
- 4) 3% reservation for handicapped and 30% for women Candidates.
- 5) Eligible Candidates those who are already in service should Submit their application through proper channel.
- 6) Ph.D Candidates who are awarded degree prior to Dt. 19 Sep. 1991 are eligible even if they have 50% marks at P.G. level.
- 7) As per GR No. संकीर्ण - 2205/प्र / क्र. 98 दिनांक-1 Date 24/06/2022 Sr.No03 The Reservation Policy for Teaching & Non Teaching Post Have Not applied permanent Non Granted College/Institution

Address For Correspondence:-Adarsh Bahuuddeshiya Sevabhavi Sanstha Loni Tq Udgir Dist Latur. Kai. Ramrao PatilAdhyapak Mahavidyalaya (B.Ed.) UdgirTq. Udgir Dist Latur Mo. No. 9423776688/7823006364



SANGAMESHWAR COLLEGE, SOLAPUR
(AUTONOMOUS)

Linguistic Minority Institute.....

Reaccredited by NAAC with 'A' Grade (C.G.P.A. 3.39) 3rd Cycle
SOLAPUR - 413 001. (MAHARASHTRA)
Email :- principal@sangameshwarcollege.ac.in

Post Box No.:52
Estd.:1953
Phone: Office - 2315588
Prin. - 2316688
Lib. - 2315566
Fax No.: 0217- 2315588

Ref. No.: SC / 23-24 /607

Date: 13/12/2023

WANTED

The posts of Assistant Professors are to be filled in our College. Applications are invited from eligible candidates for the following subjects purely on **Non Grant basis** for BCA/B.Sc ECS/ BBA /M.Sc Computer Science Courses.

| Sr. No. | Subject | No. of Posts |
|---------|------------------------|--------------|
| 1 | Computer Science | 29 FT |
| 2 | Electronics | 1 FT |
| 3 | English | 1 FT |
| 4 | Statistics | 2 FT |
| 5 | Management | 6 FT |
| 6 | Commerce & Accountancy | 2 FT |

NOTES:

1. Apply giving full particulars **within 15 days** from the date of publication of this advertisement to the undersigned in prescribed form. Prescribed forms can be filled online through our college [website www.sangameshwarcollege.ac.in](http://www.sangameshwarcollege.ac.in) and form fee of **Rs.200/- will be accepted by Challan or NEFT to our college Account Name: Principal, Sangameshwar College, Solapur. A/C No.0030041010011359 IFSC Code:- SBL50000001**. A Xerox copy of NEFT payment counterfoil should be attached with the application form. The application form and counterfoil copy should be **submitted in college office within 15 days** from date of publication of this advertisement.
2. For detailed information about post, qualifications and other terms and conditions, please visit University [website: www.sangameshwarcollege.ac.in](http://www.sangameshwarcollege.ac.in) and <https://sanmes.com/>.

Date: 13/12/2023

Sd/-
Principal
Sangameshwar College, Solapur

Sd/-
Secretary
Shri Sangameshwar Education Society, Solapur

THE C.E.S. COLLEGE OF ARTS AND COMMERCE
CUNCOLIM, SALCETE-GOIA 403 703
(Affiliated to Goa University)

Website: cescollege.ac.in • Email id.: office@cescollege.ac.in

Applications with full bio-data are invited from the Indian citizens for the post of **PRINCIPAL** (Unreserved Category). The required minimum qualifications for the post of Principal are as follows:

A. ELIGIBILITY:

- 1) Ph.D. Degree
- 2) Professor/Associate Professor with a total service/experience of at least fifteen years of Teaching/Research in Universities, Colleges and other institutions of Higher Education.
- 3) A minimum of 10 Research Publications in peer reviewed journals as approved by Goa University from time to time or in UGC-listed journals, of which at least 02 should be in Scopus/Web of Science Journals.
- 4) A minimum of 110 Research Score as per Appendix 11, Table-2 of Goa University Statute SC-16.

B. TENURE

A College Principal shall be appointed for a period of five years.

ESSENTIAL REQUIREMENTS:

- a) Knowledge of Konkani Language
- b) Certificate of 15 years of Residence in Goa, issued by a competent authority.

DESIRABLE REQUIREMENTS

- a) Knowledge of Marathi Language

Pay Scales and Service conditions are as prescribed by UGC, Government of Goa, Goa University & other competent authorities from time to time.

Applicants who are already employed shall send their applications through proper channel.

Applications complete in all respects, with photograph, along with self-certified photocopies of statement of marks of all public examination from S.S.C. onwards, copy of 15 years Residence certificate, Experience certificate, publications, research score sheet etc. should reach the undersigned at the above address **within 20 days** from the date of publication of this advertisement addressed to the Chairman. Appointment is subject to approval of Government of Goa and Goa University.

Place : Cuncolim-Goa
Date : 09.12.2023

(Virendra (Videsh) Dessai)
Chairman

WANTED

Applications are invited from the eligible candidates for the following posts in **Mahatma Basweshwar Mahavidyalaya Osmannagar, Tq. Kandhar, Dist. Nanded** (Permanent Non Granted) run by **Shri Sant Shiromani Manmath Swami Shikshan Prasarak Mandal, Shevdi (Ba), Tq. Loha, Dist. Nanded**. Applications duly complete in all respect with all documents should reach on the following address **within 15 days** from the date of publication of this advertisement. Reserved Category candidates should submit one copy of their application to the Assistant Registrar (Special Cell), Swami Ramanand Teerth Marathwada University, Nanded.

| Sr. No. | Subject | Name of the Post of Designation | No. of Posts (Full time) | Reservation |
|---------|-------------------|---------------------------------|--------------------------|---|
| 1. | English | Asst. Professor | 01 | Open=06 SC=02 ST=01 VJ (A)= 01 NT (B)= 01 NT(C)=01 OBC=03 EWS=02 |
| 2. | Marathi | Asst. Professor | 01 | |
| 3. | History | Asst. Professor | 01 | |
| 4. | Political Science | Asst. Professor | 01 | |
| 5. | Sociology | Asst. Professor | 01 | |
| 6. | Commerce | Asst. Professor | 02 | |
| 7. | Chemistry | Asst. Professor | 02 | |
| 8. | Physics | Asst. Professor | 01 | |
| 9. | Mathematics | Asst. Professor | 01 | |
| 10. | Botany | Asst. Professor | 02 | |
| 11. | Zoology | Asst. Professor | 02 | |
| 12. | Phy. Edu | Director of Physical Edu. | 01 | |
| 13. | Librarian | Librarian | 01 | |

Permission as per NOC No. JDHE Nanded /NOC/2022-23/1100/Date 08/03/2023

A) Educational Qualification/Eligibility (A).

01. Minimum educational qualification for the post of Assistant Professor will be as per Regulation of UGC (2018) G.R. of Govt. of Maharashtra Dt.08 March 2019.
02. Master's Degree with 55% marks (Or an equivalent grade in a point-Scale wherever the Grading system is followed) in a concerned/ relevant/allied subject from an Indian University, or an equivalent.
03. Besides fulfilling the above qualifications, the candidates must have cleared the National Eligibility degree from an accredited foreign university Test (NET) conducted by the UGC or CSI, or a similar accredited by the UGC. Like SET or who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum Standard and procedure for Award of M. Phil/Ph.D. Degree) Regulation, 2009 or 2016 and their amendments from time to time as the case may be exempted from NET/SET.

Samaj Jagruti Shikshan Sanstha's SAMBHAJI COLLEGE (Arts & Comm.) Murud, Dist. Latur 413510

WANTED

Applications are invited from the eligible candidates for the post of **PRINCIPAL** to be filled in **SAMAJ JAGRUTI SHIKSHAN SANSTHA'S, Murud, Dist. Latur** sanchalit **SAMBHAJI COLLEGE (Arts & Comm.) Murud, Dist. Latur** on **(GRANTED)**. Eligible candidates should submit their applications along with the necessary documents **within 15 days** from the date of publication of the advertisement by Registered Post only.

| Sr. No. | Post | No. of Posts | Full Time | Reservation |
|---------|-----------|--------------|-----------|-------------|
| 1. | Principal | 01 | Full Time | Unreserved |

Permission as per NOC No. JDHE Nanded/NOC/ 2019/30 Dated 06.12.2023.

Note : For detailed information about Post, qualifications & other Terms & Conditions, please visit University Website : www.srtmun.ac.in & sambhajicollegemurud.org.

Address:

SAMBHAJI COLLEGE (Arts & Comm.) Murud, Dist. Latur 413510.

President



भारतीय संस्कृति, वैश्विक मंच!

16 दिसंबर 2023 से 24 दिसंबर 2023

50 देश | 60 सत्र | 500 से अधिक रचनाकार

कार्यक्रम

विश्वरंग मुख्य कार्यक्रम
रबींद्रनाथ टैगोर विश्वविद्यालय, भोपाल

21, 22, 23 एवं 24 दिसंबर 2023

विश्वरंग यात्रा 21 दिसंबर 2023

विश्वरंग भाषा महोत्सव 22 दिसंबर 2023

विश्वरंग साहित्य महोत्सव 23 दिसंबर 2023

लेखक से मिलिये-ख्यात लेखकों से संवाद

विश्वरंग कला महोत्सव 24 दिसंबर 2023

5वीं राष्ट्रीय चित्रकला प्रदर्शनी
मोनाग्रफ का रिलीज़, राष्ट्रीय सेमीनार,

बच्चों के लिये वर्कशॉप

24 दिसंबर 2023

चित्रकला प्रतियोगिता एवं युवा महोत्सव
16-17 दिसंबर 2023

स्थान
स्कोप ग्लोबल स्किल यूनिवर्सिटी, भोपाल

आयोजक



तथा राष्ट्रीय एवं अंतर्राष्ट्रीय स्तर पर 100 से अधिक सहयोगी संस्थायें

Follow us on    

संपर्क

सभी सत्रों की विस्तृत जानकारी एवं फेस्टिवल में रजिस्ट्रेशन हेतु

हमारी वेबसाइट पर लॉग ऑन करें : www.vishwarang.com, फोन : +91-755-2700480/9826332875/9099006302

ASSOCIATION OF INDIAN UNIVERSITIES**ADVERTISEMENT TARIFF : UNIVERSITY NEWS JOURNAL****W.E.F. APRIL 01, 2017**

GST AT PRESENT RATE OF 5% IS PAYABLE FOR PUBLICATION OF ALL TYPES OF ADVERTISEMENTS IN ADDITION TO THE PAYABLE CHARGE AS MENTIONED BELOW EFFECTIVE APRIL 01, 2020

A. FOR EDUCATIONAL INSTITUTIONS, GOVT. ORGANIZATIONS, PUBLISHERS, BOOK SELLERS & DISTRIBUTORS**DISPLAY**

(Amount in Rupee)

| Categories of Advertisement | 1 Insertion | 4 Insertions | 8 Insertions | 12 Insertions |
|-----------------------------|----------------|-----------------|-----------------|------------------|
| Full Page | 15000 | 45000 | 85000 | 120000 |
| Half Page | 8000 | 28000 | 50000 | 68000 |
| Quarter Page | 5000 | 16000 | 28000 | 40000 |
| Cover (Inside) | 16000 | 55000 | 100000 | 144000 |
| Cover (Back) | 20000 | 65000 | 120000 | 165000 |

B. TARIFF FOR SPECIAL NATURE OF MATTERS/ITEMS (DOUBLE THE RATES)

TARIFF FOR SUPPLIERS OF COMPUTERS, COMPUTER STATIONERY & PERIPHERALS, SCIENTIFIC & SURGICAL INSTRUMENTS, SPORTS GOODS AND OTHERS (*NOT COVERED IN ANY FORM OF THE TARIFF*) WILL BE AT DOUBLE THE RATES AND TARIFF CAN BE HAD ON REQUEST.

C. CONFESIONAL TARIFF (For Publishers/Book Distributors- Exclusively for Books)

| Per Square Cm (Display) | 1 Insertion | 4 Insertions | 8 Insertions | 12 Insertions |
|----------------------------|----------------|-----------------|-----------------|------------------|
| | 30.00 | 28.00 | 26.00 | 24.00 |

MECHANICAL DATA OF JOURNAL

Size of Page 21 cms x 27 cms

PRINT AREA

| | | | |
|--------------|-----------------|---|------------------|
| Full Page | 23 cms (Height) | x | 16.5 cms (Width) |
| Half Page | 12 cms (Height) | x | 16.5 cms (Width) |
| Quarter Page | 11 cms (Height) | x | 8 cms (Width) |

The Art Work/CRC IN PDF in High Resolution as per above Print Area (in BLACK & WHITE ONLY) or as an OPEN FILE in MS WORD may be sent positively at E-Mail IDs as shown below. **MATTER FOR ADVERTISEMENT MUST REACH SEVEN (07) DAYS IN ADVANCE FROM THE DATE OF PUBLICATION OF A PARTICULAR ISSUE OF UNIVERSITY NEWS, WHICH IS PUBLISHED EVERY MONDAY.**

ADVERTISEMENT AGENCIES (INS ACCREDITED) ARE ALLOWED 15% DISCOUNT.

Full advance payment must be sent directly to AIU Account using any of the Digital modes (i.e. NEFT/ RTGS/ Net Banking/BHIM/G-Pay/UPI, AIU Payment Web portal, etc.). The details of AIU Account are available in AIU Website (www.aiu.ac.in). The required data can be provided by mail on request.

For further information write to :-

**Publication & Sales Division
Association of Indian Universities**

AIU House, 16, Comrade Indrajit Gupta Marg, New Delhi - 110 002

EPABX : 011-23230059 (Extn. 208) DIRECT LINE: 011 23213481

E-mail IDs : advtn@aiu.ac.in / publicationsales@aiu.ac.in; Website : <http://www.aiu.ac.in>